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UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
WASHINGTON, D. C.

HYDROLOGIC STUDIES

COMPILATION OF RAINFALL AND RUN-OFF FROM THE WATERSHEDS OF THE PACIFIC NORTHWEST CONSERVATION EXPERIMENT STATION

1932-40

By

G. M. Horner
Project Supervisor

and

L. M. Naffziger
Engineering Aide

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UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Washington, D. C.
H. H. Bennett, Chief

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G. M. Horner, Project Supervisor
and
L. M. Naffziger, Engineering Aide
Pullman, Washington

Prepared under the direction of
C. E. Ramser, Chief, Hydrologic Division

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COMPILATION OF HYDROLOGIC DATA ON SMALL WATERSHEDS
AT THE PACIFIC NORTHWEST
CONSERVATION EXPERIMENT STATION
PULLMAN, WASHINGTON

I. The Experiment Station History

The Pacific Northwest Soil and Water Conservation Experiment Station at Pullman, Washington, was established in 1930 as a joint research project between the Bureau of Chemistry and Soils and the Bureau of Agricultural Engineering of the U. S. Department of Agriculture and the Washington Agricultural Experiment Station. The general objectives of the work at this research project are to determine the variables affecting the rate and amount of soil erosion and run-off and to develop practical measures for minimizing or controlling these losses. The region served by the station includes the Palouse wheat-producing area of eastern Washington and the adjacent sections of Idaho and Oregon. On April 1, 1935, this project was transferred to the Soil Conservation Service of the Department of Agriculture.

Acknowledgment is made to P. C. McGrew and L. M. Naffziger for their work in collecting the basic records. During this period W. A. Rockie, C. E. Deardorff, and G. M. Horner supervised the project. Mr. Naffziger directed the field CCC enrollees in compiling the major part of the records for this report. W. D. Potter and L. L. Harrold of the Washington Office, Hydrologic Division, prepared the instructions for compiling the data. Mr. Potter initiated the CCC compilation work in the field. Messrs. S. Morabito and L. L. Harrold reviewed the compilation before publication.

II. Physical Characteristics of the Station

The station (fig. 1) is located on 202 acres of land owned by the State College of Washington and situated 3 miles northwest of Pullman, Whitman County, Washington.

Its topography is very steeply rolling, with cultivated slopes up to 50 percent. The elevation of the station ranges from 2,471 to 2,656 feet above sea level. The soils of the experiment farm are typical of the Palouse region with two types predominant; namely, Palouse silt loam and Palouse silty clay loam (shallow phase).

III. Description and History of Each Watershed

One phase of the experimental work at this station is the measurement of surface run-off and soil losses from agricultural watersheds of different sizes and characteristics.

The terraced areas (terraces 15, 16, 17 and 18), shown in figure 2, were established in the summer of 1931. Run-off measuring equipment was installed before the 1931-32 erosion season, except for terrace 15 which was completed one year later. The four terraces represent a variety of terrace grades. Each terrace has a uniform grade throughout the entire length. The grade of terrace 15 is 2.0 percent; terrace 16, [illegible] percent; terrace 17, 0.6 percent; and terrace 18, 0.5 percent. The terraces [illegible] vertical spacing of about 11 feet, except terrace 16, which [illegible] and has an average vertical spacing of 17 feet.

The experiment is located with the outlet channel on a south slope, although the terraces continue around the hill on a west slope. There is a variation of land slope from 20 to 26 percent and a decrease in the depth of surface soil on the upper portions of the slope, but these factors are believed to be of lesser importance than the grades of the terraces.

General farming practices were followed on the area with the cropping system consisting of winter wheat and summer fallow. The wheat was threshed with a combine harvester and the stubble left standing over winter. An orchard-type disk was used for the inital spring tillage operations to work the stubble into the surface soil in preparation for summer fallow. Subsequent cultivation was done with a revolving rod-weeder and wheat was seeded as soon as the fall soil moisture was adequate. With this system, good erosion control was furnished every other season by the standing stubble, but severe erosion conditions existed during the erosion season following winter wheat seeding on summer fallow land.

The unterraced watershed (G.S.4) of 2.35 acres, shown in figure 3, is located east of the terraced area and has similar soil and slope characteristics It was established during the summer of 1931 and measurements were made at the beginning of the 1931-32 erosion season. The terrace outlet channel and embankment extending from the southwest corner of the area to the measuring equipment form part of the west and south boundaries of the watershed.

Cropping and tillage practices identical to those described above for the terraced areas were followed on this watershed. It serves as an unterraced check area.

Watershed G.S. 2 (fig. 4). with an area of 68.2 acres, was established in 1931 on the southwestern part of the station tract. It is unterraced and has natural watershed boundries. The drainage sustem is well defined with one main channel formed by two tributaries uniting at about the center of the watershed. A wide range of slopes is found in the area, varying from relatively flat land to slopes of over 60 percent.

Several land-use practices have been in effect in differnet parts of the watershed. The tract of 16.5 acres situated south of the east-west road has been cropped principally to a two-year winter wheat-pea rotation, except for 2.2 acres of steep land which has been cropped to a grass-alfalfa mixture for hay production. A strip extending along the northern and eastern edges of the watershed was divided into 5.0 acres of grass and alfalfa, 2.0 acres of control plots, and 0.5 acres of trees. The remainder of the area has been farmed to the usual crops of the region; namely, wheat, peas, sweet clover and summer fallow in various combinations.

Watershed G.S. 5 (fig. 5). with an area of 14.4 acres, was established in 1932 on a tract of land located one-quarter mile east of the station. The configuration of the watershed is concave and somewhat oblong in shape with the length about twice the width and the drainage channel extending from northeast to southwest. Land slopes on the south hill average 32 percent and on the north hill [illegible] percent, while the [illegible] and the hilltop areas adjacent to the watershed boundries are [illegible].

A [illegible] followed on this area. Winter wheat was [illegible] in 193[illegible], [illegible] in 193[illegible], winter wheat in 193[illegible], peas in 1936, winter wheat in 1937, flax in [illegible], flax and sweet clover in 19[illegible].

Watershed G.S. 6 (fig. 6), with an area of 15.2 acres, was established in 1932 on a tract of land located one-half mile east of the station. The drainage course is divided into two main branches about 100 feet above the water stage recorder. The watershed boundries are somewhat irregular, but the area has an approximately circular shape. Drainage is toward the north and the major portion of the land lies on a north slope. The lower section and the hilltop areas have relatively gentle slopes, but the major portion of the watershed has an average slope of about 26 percent.

A wheat-and-pea-producing cropping system has been followed on this area. The following crops have been grown since the run-off measurements were initiated: summer fallowed in 1933, winter wheat in 1934, peas and sweet clover in 1935 and 1936, winter wheat in 1937, spring wheat in 1938, and peas in 1939.

Watershed G.S. 8 (fig. 7), with an area of 762 acres, was established in 1934 and is located at a distance of one mile east of the station. The area is approximately two miles long and averages slightly over one-half mile in width. It has a fully devloped drainage system, consisting of one main channel with several smaller water courses branching out on either side. There is a wide range of slopes conditions in the watershed; however, it represents typical Palouse topography.

This watershed has been devoted to general farming practices and surface and cover conditions during different years have been fairly uniform. The principal cropping system has been a two-year winter wheat-pea rotation. The practice of alternating winter wheat and summer fallow was also followed. Only a small portion of the land was protected by recommended conservation practices.

IV. Instrumentation

Rain gages - standard and recording (table 1).

The recording rain gages applicable to the investigations included in this report are Fergusson weighing and recording rain and snow gages, using recorder charts having a vertical scale of 1-1/2 inches = 1 inch of rainfall, and a horizontal scale of 1 inch = 62-1/2 minutes. All standard gages are of the standard Weather Bureau type.

Flumes - All the installations were originally equipped with Parshall flumes (table 2) and water stage recorders for the measurement of run-off. During the summer of 1939, the Parshall flumes on watersheds G.S. 2, G.S. 5, G.S. 6, and G.S. 8 were replaced with V-notch broad-crested wires.

Silt Sampler - The Ramser Silt Sampler is placed on the side of the silt box, 2 feet from the end weir. The bottom of the entrance of the sampler is installed at the same elevation as the weir. Thus a sample is secured of all run-off that passes over the end weir. The sampler is provided with a 1/2-inch width entrance. The sample is then divided by a 3-inch slot and a 1/2-inch slot. The run-off from the 1/2-inch slot is retained in the side tank and that from the 3-inch slot is wasted.

Silt Loss Measurements - [illegible] the soil loss, two 1-quart samples are taken [illegible] in the [illegible] and the side tank. [illegible] tent is determined. The total soil loss is calculated from the total run-off, which is determined from hydrographs [illegible] from the water stage recorder.

Watersheds G.S. 4, G.S. 5, G.S. 6 and G.S. 8 are not equipped with silt boxes or silt samplers. Soil loss determinations until the summer of 1938 were made by securing samples of the run-off material at the flume. These samples were taken in 1-quart jars periodically to correspond with important changes in quantity of discharge. Measurements of soil losses were discontinued at the end of the 1937-1938 run-off season.

V. Graph and Tabulation Sheets

A. Rainfall.

All storms were tabulated on Form SCS-345, regardless of whether or not surface runoff resulted. Graphs were prepared for those storms which caused appreciable run-off during periods when there was no snow cover on the ground. Run-off resulting from melting snow was not plotted.

In plotting the accumulated rainfall and intensity graphs, rainfall depth at the break points of the recorder trace were tabulated and plotted and the intensities between such break points calculated, rather than the depths and intensities for any selected time interval. The recording gages were selected to provide a record most nearly representative of the precipitation on the area under consideration.

B. Surface Run-off.

The gage heights and time were tabulated at break points and other points on the water-stage charts. The rates for the corresponding gage heights were taken from rating tables, and then plotted in cubic feet per second on the final graph sheet. The accumulated run-off for each time increment was determined and also tabulated on the graph sheet.

obstacle

[illegible]

Plate I. Measuring equipment on terraces. Showing portion of terraced areas at left and unterraced watershed at right. April 20, 1934.

Plate [illegible] Showing gage shelter, 6" [illegible] Ramser silt sampler.

Plate III. Terraced and unterraced areas. Showing terraces at left and unterraced watershed G.S. 4 at right. August 5, 1936.

Plate V. Watershed G.S. 2. Showing topography and part of the watershed boundaries. Measuring equipment is shown at left. December 2, 1940.

Plate VII. Watershed G.S. 6. Showing drainage pattern and the V-notch broadcrested weir measuring equipment. December 2, 1940.

Plate IX. Watershed G.S. 5. Showing topography and location of broadcrested weir measuring equipment. December 2, 1940.

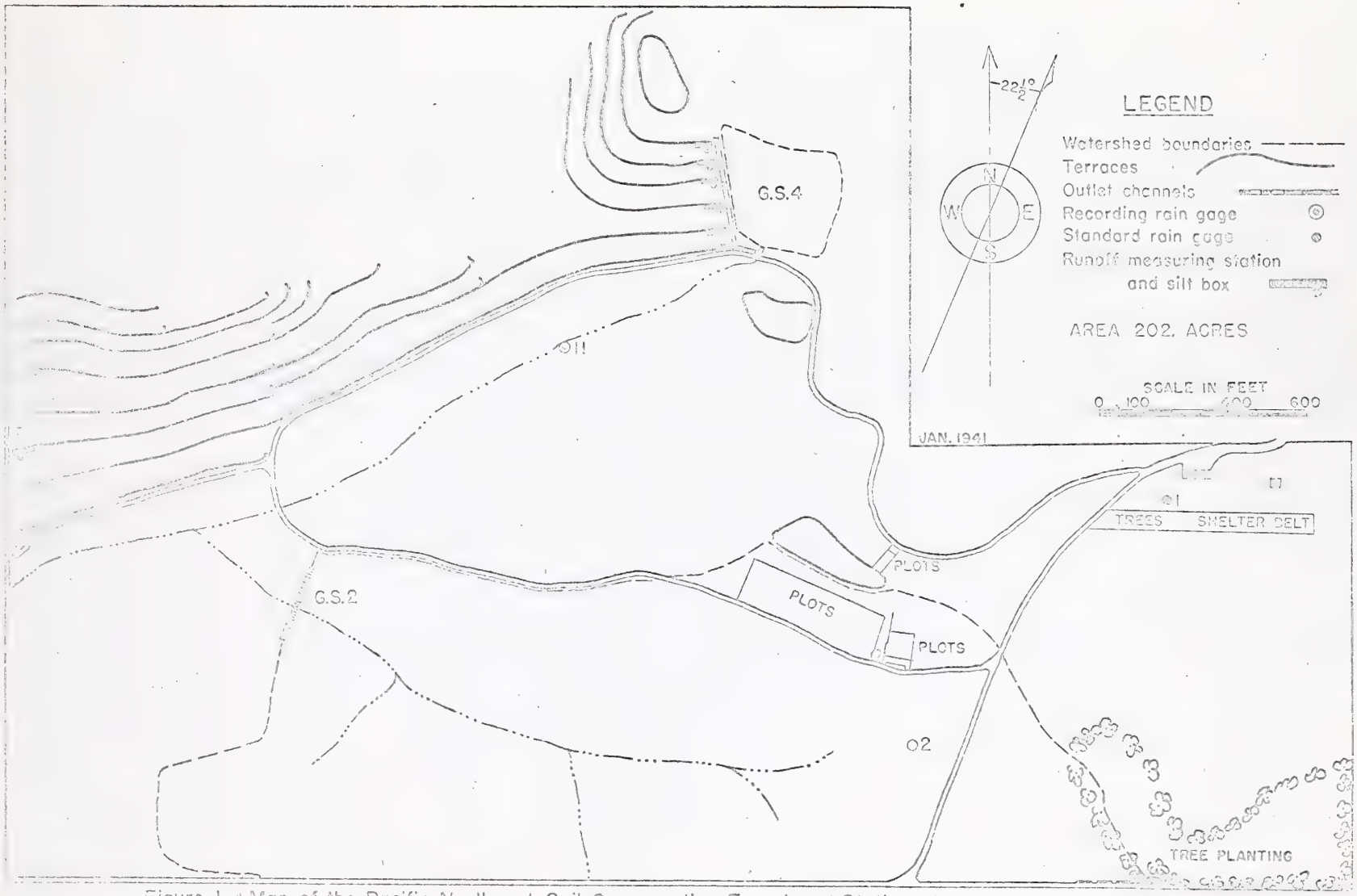
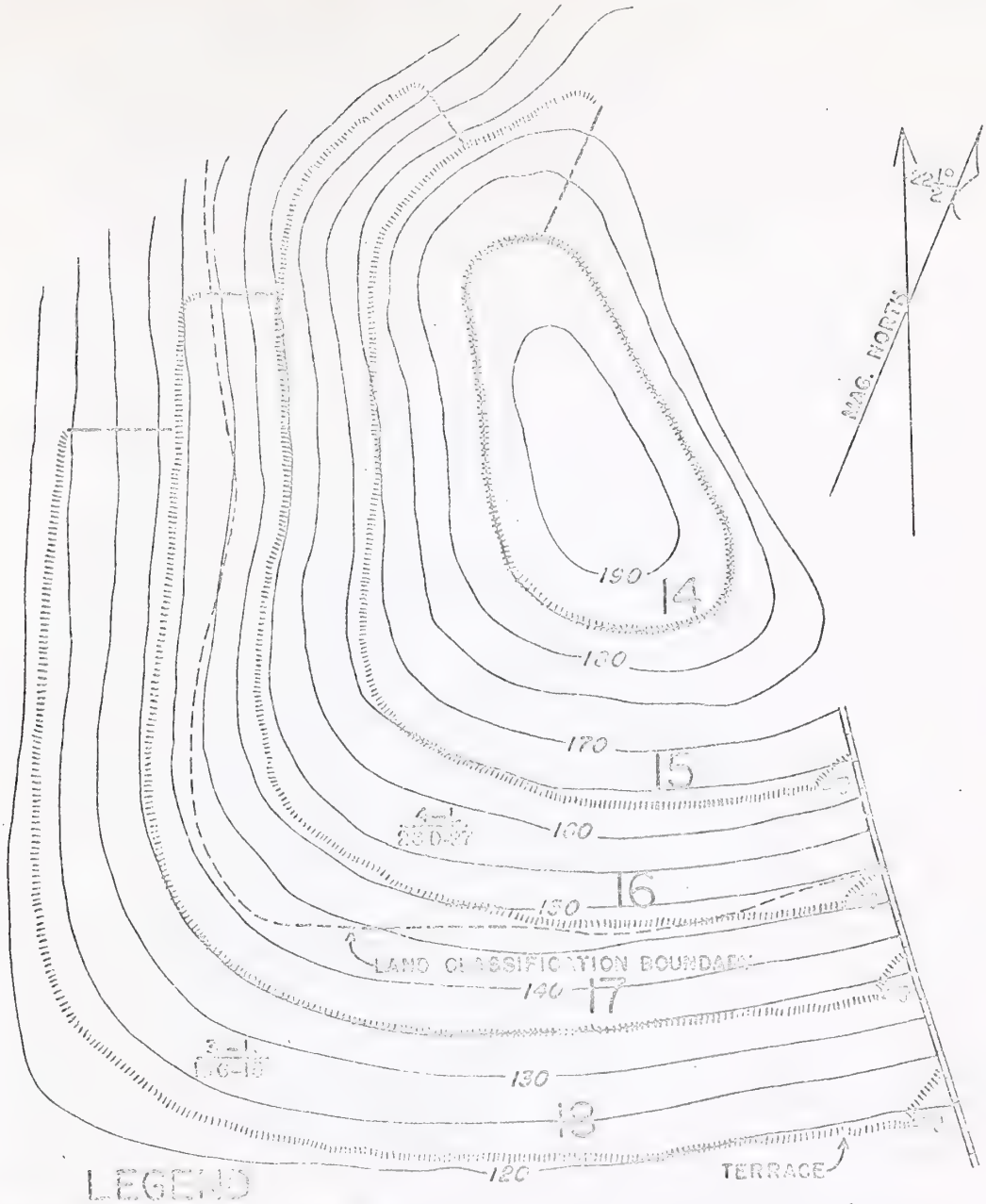


Figure. 1. - Map of the Pacific Northwest Soil Conservation Experiment Station, showing location of the fields and experimental areas.



LEGEND

EROSION	SLOPE	
1 Slight sheet erosion	A	0% - 3%
2 Moderate sheet erosion	B	3% - 12%
3 Moderately severe sheet erosion	C	12% - 20%
	D	20% - 30%
4 Severe sheet erosion	E	Over 30%

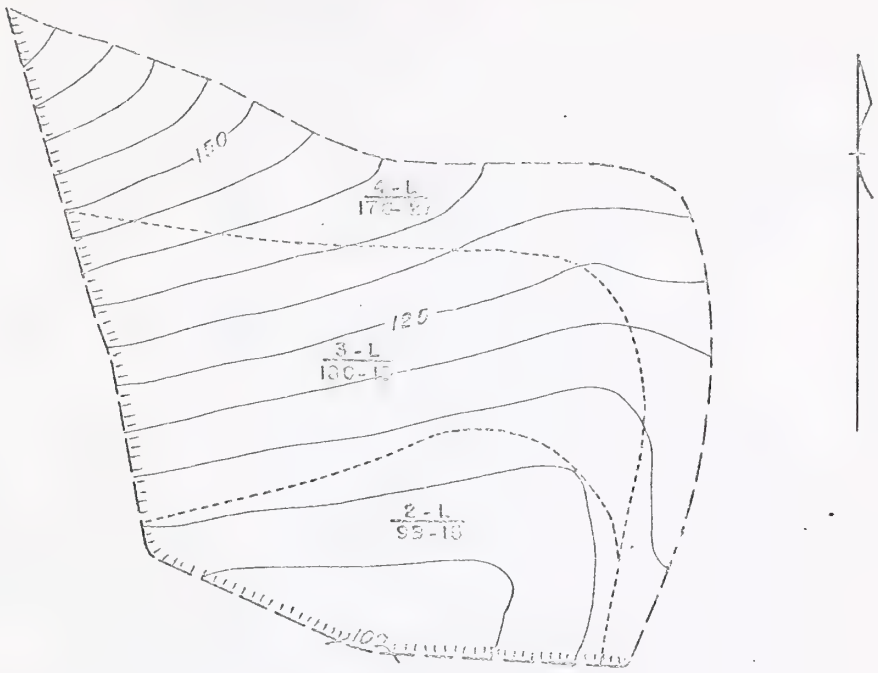
SOILS	LAND USE
15 Palouse silt loam	L Cultivated land
27 Palouse silty clay loam	

TERRACES

PULLMAN, WASHINGTON

SCALE IN FEET

0 50 100 200



LEGEND

— — — — Watershed boundary

- - - - - - - - - - - - Conservation survey boundary

CONSERVATION SURVEY SYMBOLS

Order of Symbols : $\frac{\text{EROSION — LAND USE}}{\text{SLOPE — SOIL TYPE}}$

EROSION		SLOPE	
1	Slight sheet erosion	A	0% - 3%
2	Moderate sheet erosion	B	3% - 12%
3	Moderately severe sheet erosion	C	12% - 20%
		D	20% - 30%
4	Severe sheet erosion	E	Over 30%

SOIL TYPE		LAND USE	
15	Palouse silt loam	L	Cultivated land
27	Palouse silty clay loam, shallow phase		

WATERSHED G. S. 4

PULLMAN, WASHINGTON

AREA 2.55 ACRES

SCALE IN FEET

100 0 100 200

JAN. 1941

Figure 2.- Map of Watershed G. S. 4

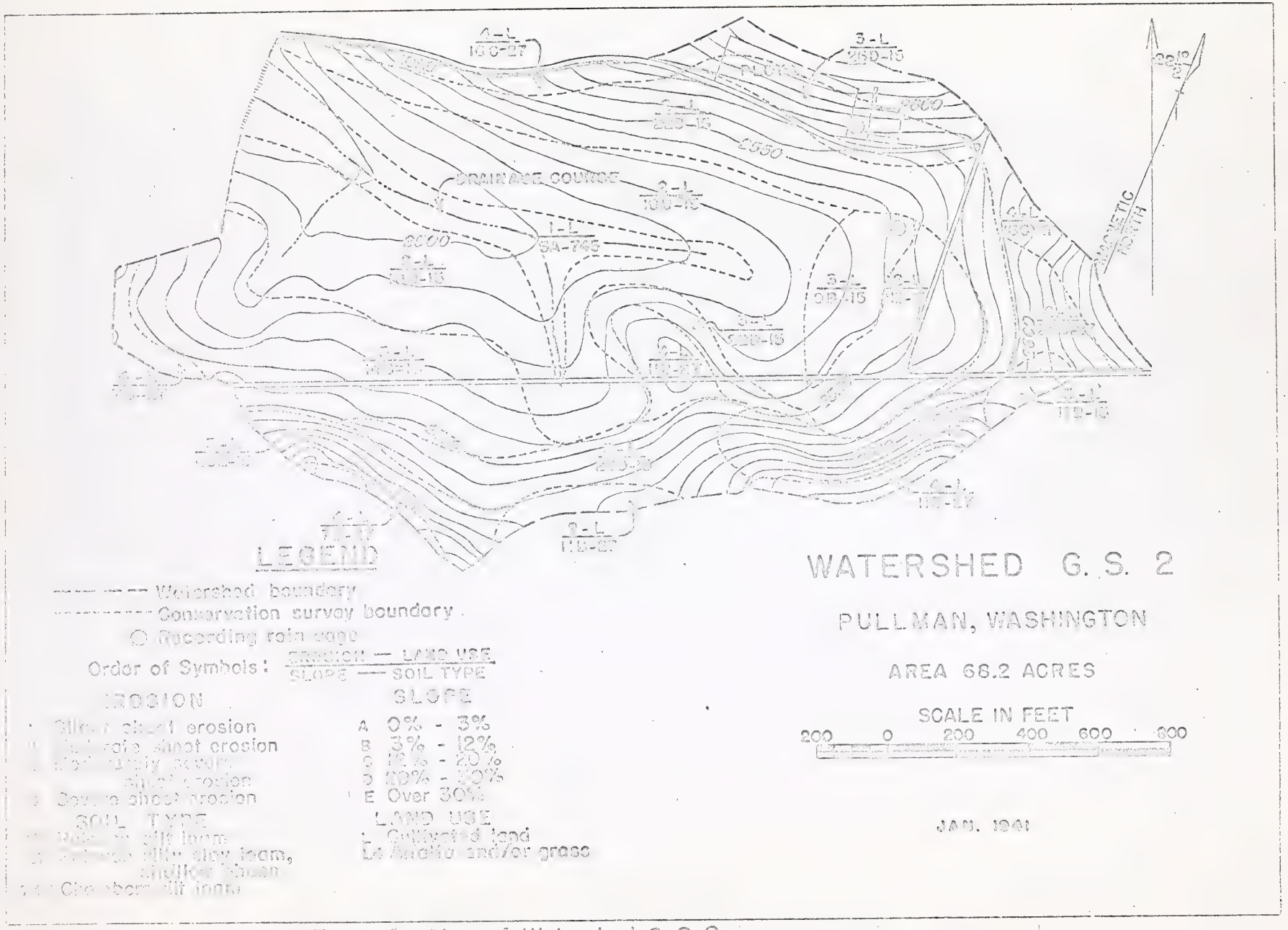
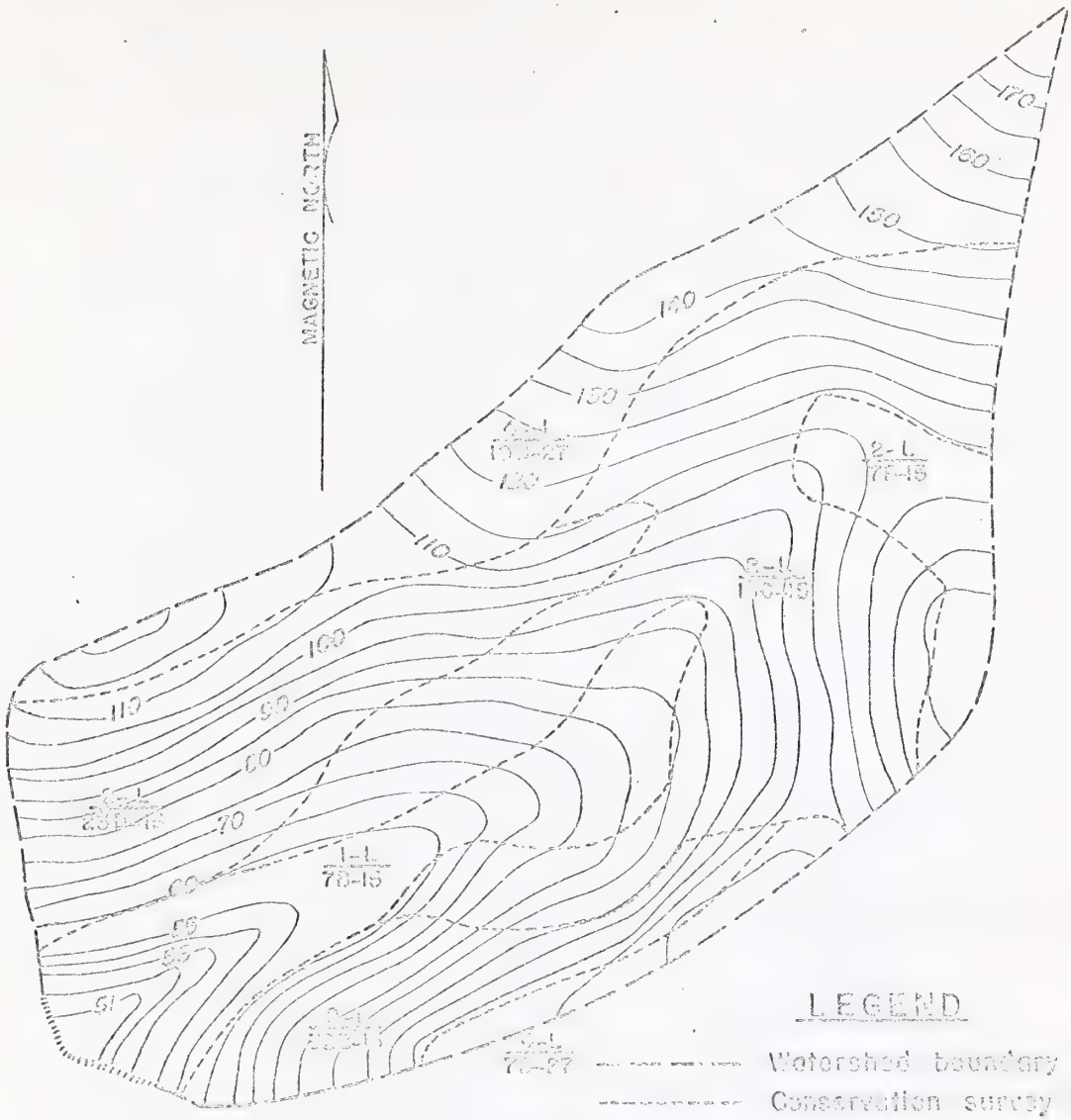


Figure 4 -- Map of Watershed G. S. 2.



LEGEND

Watershed boundary

Conservation survey boundary

CONSERVATION SURVEY SYMBOLS

Order of Symbols: $\frac{\text{EROSION — LAND USE}}{\text{SLOPE — SOIL TYPE}}$

EROSION	SLOPE
1 Slight sheet erosion	A 0% - 3%
2 Moderate sheet erosion	B 3% - 12%
3 Moderately severe sheet erosion	C 12% - 20%
4 Severe sheet erosion	D 20% - 30%
	E Over 30%

SOIL TYPE	LAND USE
[illegible]	L [illegible]
27 Palouse silty clay loam, [illegible]	

WATERSHED G. S. 5

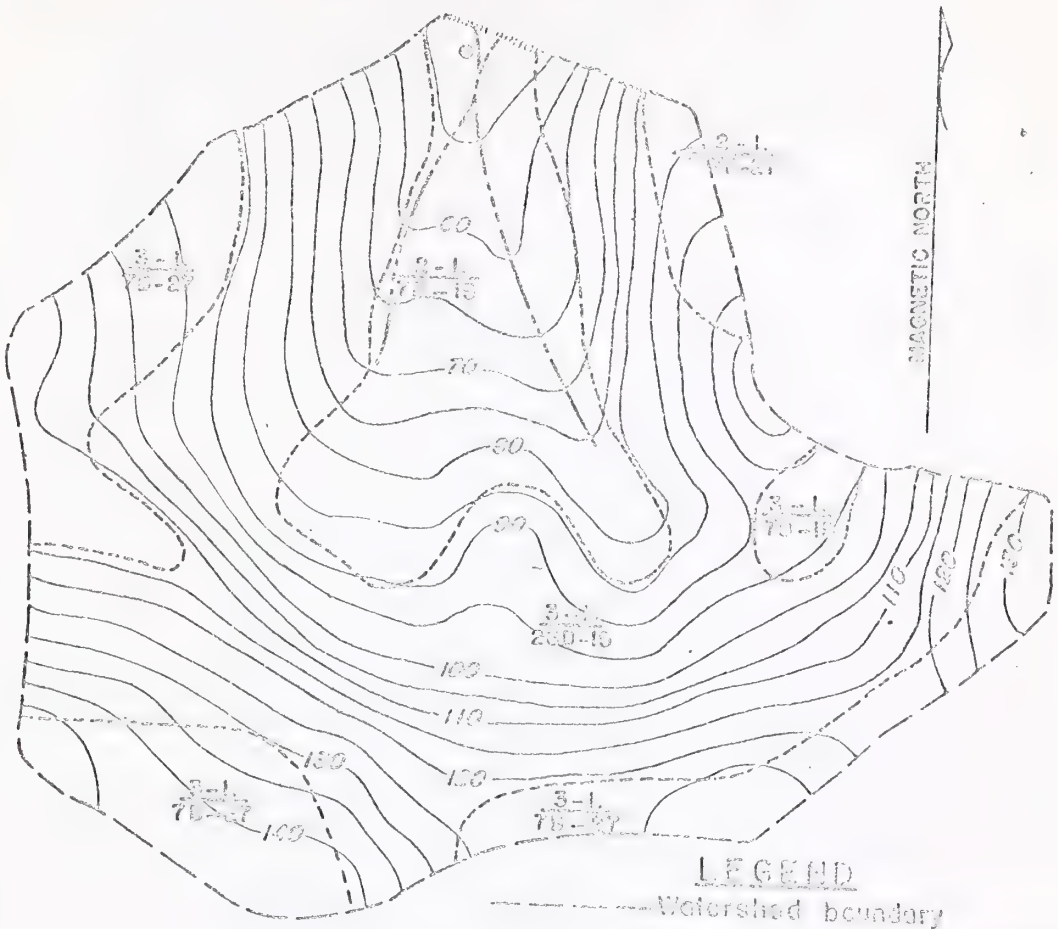
PULLMAN, WASHINGTON

AREA 144 ACRES

SCALE IN FEET

[illegible]

Figure 5. Map of Watershed G. S. 5



LEGEND

——— Watershed boundary

- - - - Conservation survey boundary

o Standard rain gage

CONSERVATION SURVEY SYMBOLS

Order of Symbols : EROSION — LAND USE / SLOPE — SOIL TYPE

EROSION

1 Slight sheet erosion
2 Moderate sheet erosion
3 Moderately severe sheet erosion
4 Severe sheet erosion

SOIL TYPE

15 Palouse silt loam
27 Palouse silty clay loam, [illegible]

SLOPE

A 0% - 3%
B 3% - 12%
C 12% - 20%
D 20% - 30%
E Over 30%

LAND USE

L Cultivated land

WATERSHED G. S. G

PULLMAN, WASHINGTON

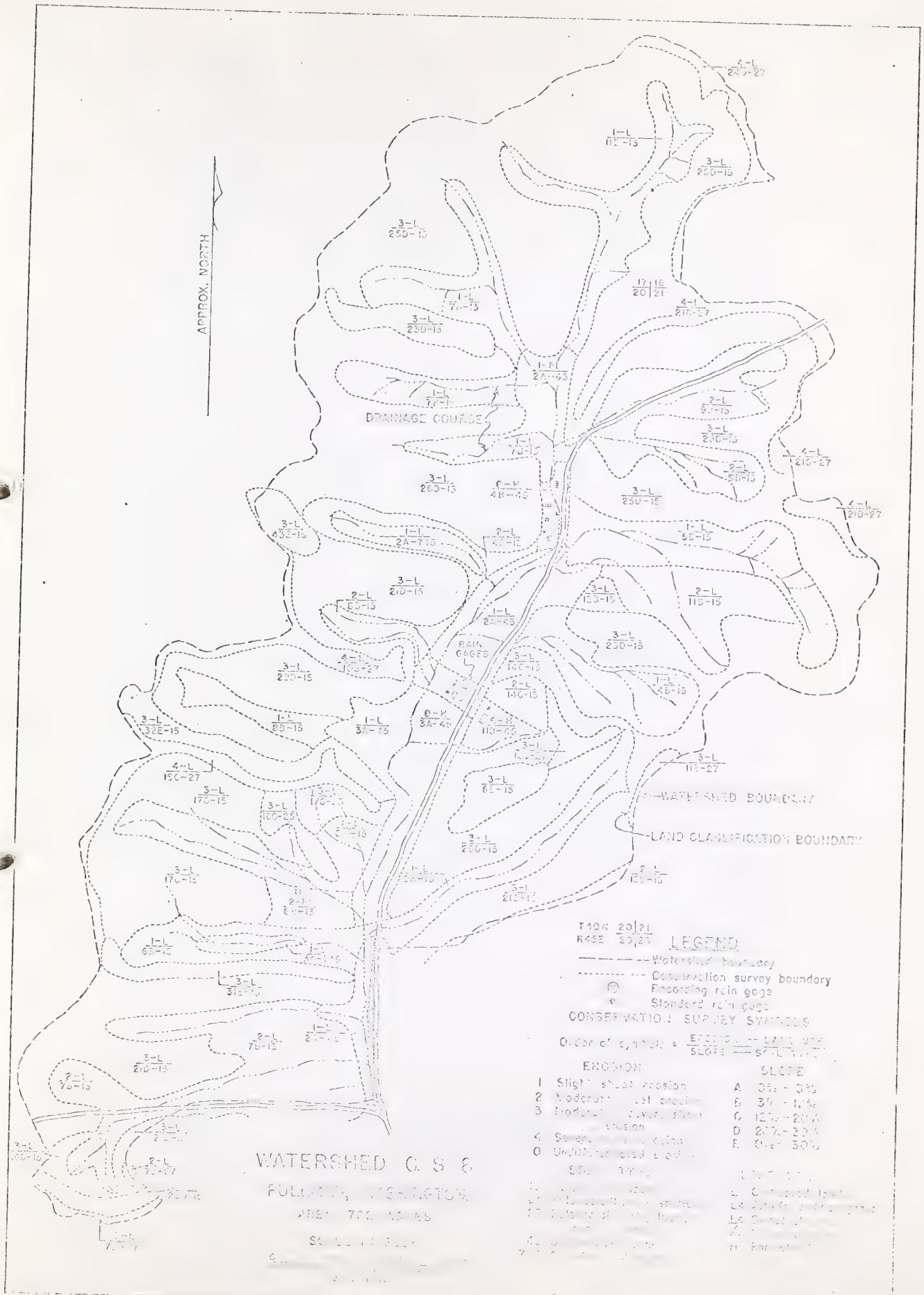
AREA 15.2 ACRES

SCALE IN FEET

0 100 200 400

JAN. 1941

Figure 6.— Map of Watershed G. S. G


APPROX. NORTH
DRAINAGE COURSE
RAIN GAGES
WATERSHED BOUNDARY
LAND CLASSIFICATION BOUNDARY
LEGEND
Watershed boundary
Conservation survey boundary
Recording rain gage
Standard rain gage
CONSERVATION SURVEY SYMBOLS
EROSION
SLOPE
WATERSHED C. S. 8

Form S. C. S.-343

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT Pullman, Washington

MONTH January, 1932

SHEET 1 OF 9 SHEETS

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F)	Temperature Minimum (degrees F)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January									
1/1-8	G.S.2	68.2								39	21	192 hours		0.02	0.007	Cont.		0.001	Melting snow and groundwater.
	G.S.4	2.33								39	21	No runoff							Jan. - March, the precipita-
	Ter.16	.82								39	21	Ditto							tion was 3.75" above normal.
	Ter.17	.92								39	21	"							Rapid melting of snow, rain,
	Ter.18	1.18								39	21	"							frozen ground and saturated
1/4			2	Snow		0.25		Snow		32	21								soil resulted in heavy runoff
1/5			2	"		0.05		"		36	27								and serious erosion.
1/8-9			2	11:35P	460	0.49	0.16	0.16	0.15	41	32								
1/9-10	G.S.2									47	30	48 hours		0.15	1.57	8:00A	(9)	0.052	
1/9	G.S.4									41	34	2:50A	6:30P	0.17	0.04	2:00P		0.018	
1/9	Ter.16									41	34			0.02				0.001	Measured in silt box.
	Ter.17									41	34	No runoff							
	Ter.18									41	34			0.00				0.000	
1/10			2	Snow		0.13		Snow		47	30								
1/11			2	8:30A	405	0.74	0.33	0.33	0.30	50	33								
1/11	G.S.2									50	33	24 hours		0.79	16.90	1:50P		7.219	Snow on ground melted as rain
1/11	G.S.4									50	33	12:01A	6:30P	0.58	0.40	1:35P		6.583	fell. Ground saturated.
1/11	Ter.16									50	33	9:10A	4:30P	0.21	0.07	1:50P		1.032	Little frost.
1/11	Ter.17									50	33	--		0.02	--			0.030	Measured in silt box.
1/11	Ter.16									50	33	--		0.02	--			0.045	Measured in silt box.
1/12-17	G.S.2									34	16	144 hours		0.08	0.13	12M (12)		0.003	
	G.S.4									34	15	No runoff.							
	Ter.16									34	15			"					
	Ter.17									34	15			"					
	Ter.18									34	15			"					
1/17			2	Snow		0.05		Snow		34	15								
1/17-18			2	2:30P	1245	0.78	0.12	0.12	0.08	39	15								Jan. 18. Heavy runoff.
1/18	G.S.2		2	3:30P	75	0.13	0.24	0.20	0.15	39	25	24 hours		0.44	3.17	4:30P		0.080	Ground frozen except 1/2 to
	G.S.4									39	25	12:01A	6:30P	0.25	0.18	4:15P		0.129	1" on top.
	Ter.16									39	25			0.12				0.040	Measured in silt box.
	Ter.17									39	25			0.02				0.001	" " " "
	Ter.18									39	25			0.00				0.000	" " " " "
1/19			2			0.04		Snow		37	32								
1/20			2			0.11		"		33	29								
1/22			2			0.06		"		34	26								
1/25			2			0.25		"		29	21								
1/26			2			0.10		"		29	24								
1/27			2			0.07		"		29	24								
1/30			2			0.20		"		24	15								
1/31			2			0.05		"		24	16								

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: January-February, 1932

Sheet 2 of 9 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F.)	Temperature Minimum (degrees F.)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January (Continued)									
1/18-28	G.S.2	68.2								39	14	12 P	12 P	0.11	0.27	3 P (19)		0.008	
1/19-31	G.S.4	2.33								37	5			No runoff.					
1/19-31	Ter.16	.82								37	5			Ditto					
1/19-31	Ter.17	.92								37	5			"					
1/19-31	Ter.18	1.18								37	5			"					
										February									
2/1			2			0.30		Snow		12	5								
2/4			2			0.20		"		30	19								
2/5			2			0.10		"		34	30								
2/6			2			0.80		"		32	30								
2/8			2			0.11		"		37	30								
2/9			2			0.75		"		35	24								
2/13			2			0.04		"		20	11								
2/21			2	3:15A	135	0.09	0.24	0.08	0.06	40	24								
1/28-2/20	G.S.2									41	1			0.08	0.01			0.003	1/28-2/20 G.S. 2 Runoff of continuous nature. Accumulating cover of snow.
2/1-18	G.S.4									37	1			No runoff.					
2/1-20	Ter.16									41	1			Ditto					
2/1-20	Ter.17									41	1			"					
2/1-20	Ter.18									41	1			"					
2/19	G.S.4									30	17	1:25P	6:00P	0.04	0.06	5:00P		0.002	
2/21	G.S.2									40	24	5 A	12 P	0.01	0.08	12 M		0.002	
	G.S.4									40	24	11 A	10:30P	0.04	0.01	12 M		0.002	
	Ter.16									40	24	12 M	10 P	0.05	0.01	3:05P		0.007	
	Ter.17									40	24			0.00					Measured in silt box.
	Ter.18									40	24			0.00					" " " "
2/21-23	G.S.2									41	24	12 P	12 P	0.11	0.53	12 P (23)		0.039	
2/22-23	G.S.4									41	32	9:40A	12 P	0.12	0.04	4 P (23)		0.012	
2/22-23	Ter.16									41	32	11 A	12 P	0.05	0.004	6 P (23)		0.007	
2/22-24	Ter.17									41	32			No runoff.					
2/22-24	Ter.18									41	32			Ditto					
2/23	G.S.2		2	4:45A	240	0.09	0.12	0.08	0.08	40	36	24 hours		0.36	1.86	6 P		0.127	Runoff from melting snow and rain.
	G.S.4									40	36	24 hours		0.37	0.07	4 P		0.042	
	Ter.16									40	36	24 "		0.06	0.004	2 P		0.008	
	Ter.17									40	36			No runoff					
	Ter.18									40	36			Ditto					

Form S. C. S.-343

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month February-March, 1932

Sheet 3 of 9 sheets

Date	Watershed		Rainfall							Temperature (degrees F)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	Maximum Intensity: 15 minutes (inches per hour)	Maximum Intensity: 30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										February (Continued)									
2/25	G.S.2	68.2	2	2:30P	330	0.08	0.12	0.04	0.04	47	36	24 hours		0.55	3.72	1 P		0.199	Melting snow and rain.
	G.S.4	2.33								47	36	24 "		0.27	0.06	1 P		0.031	
	Ter.16	0.82								47.	36	24 "		0.08	0.004	1 P		0.010	
	Ter.17	0.92								47	36			0.00					Measured in silt box.
	Ter.18	1.18								47	36			0.00					" " " "
2/26	G.S.2		2	6:55A	65	0.04	0.12	0.08	0.08	59	39	24 hours		0.44	2.40	1:40P		0.950	
	G.S.4									59	39	24 "		0.30	0.10	1:30P		0.093	
	Ter.16									59	39.	24 "		0.05	0.002	1:30P		0.006	
2/26-27	Ter.17									59	39			0.06				0.032	Measured in silt box.
2/26	Ter.18									59	39		No runoff						Snow in drifts. Over half
2/27			2	1:30P	190	0.15	0.18	0.12	0.10	59	39								of ground bare. 1-4" thaw.
2/28			2	No record		0.03	No record			39	35								Soil saturated, frozen under
2/29						0.06	Snow			41	33								snowdrifts.
2/27-28	G.S.2									59	33	72 hours		0.95	5.66	3 P (27)		4.828	Melting snow and rain.
2/26-28	G.S.4									59	35	12 P	7 P	0.36	0.16	2:50 P (27)		0.214	" " " "
2/26-27	Ter.16									59	39	12 P	12 P	0.05	0.004	4:30 P (27)		0.077	" " " "
2/28-29	Ter.17									41	33		No runoff						
2/27-29	Ter.18									59	33		" "						
2/29	G.S.4									41	33	10 A	5 P	0.02	0.004	4 P		1.106	Melting snow.
										March									
2/29-3/4	G.S.2									41	17	12 P	12 P	0.44	0.57	10 P (4)		0.188	Melting snow and groundwater.
3/1-4	G.S.4									41	17		No runoff						
3/1-4	Ter.16									41	17		" "						
	Ter.17									41	17		" "						
	Ter.18									41	17		" "						
3/2			2			0.40	Snow			33	31								
3/4			2			0.73	"			41	17								
3/5	G.S.2		2	7 A	765	0.27	0.10	0.08	0.06	41	24	24 hours		1.05	5.66	12 M		2.785	Melting snow and rain.
3/5	G.S.4									41	24	3 A	10:30P	0.43	0.14	11 A		0.194	" " " "
	Ter.16									41	24	9:20A	10 P	0.08	0.01	12:40P		0.042	" " " "
	Ter.17									41	24			0.02				0.004	Measured in silt box.
	Ter.18									41	24			0.01				0.003	" " " "
3/6-13	G.S.2									45	22	192 hours		0.56	1.64	1 P (6)		1.458	Mar. 5, approx. 6" snow on
3/6-7	G.S.4									41	30	4:30A	5 P	0.06	0.03	12:50P (6)		0.812	ground evening of March 4.
3/6	Ter.16									40	30	8 A	7 P	0.04	0.01	1 P		0.064	Chinook started in evening and
3/6	Ter.17									40	30		No runoff						rain after mdt. No frost in
3/6	Ter.18									40	30		Ditto						ground. Soil saturated.

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Wash.

Month March, 1932

Sheet 4 of 9 sheets

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu ft. sec	Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										March (Continued)									
3/14	G.S.2	68.2	2	No record		0.07		No record		43	36	24 hours		0.08	0.23	5 P		0.072	
3/14	G.S. 4	2.33	2	9:45A	745	0.12	0.12	0.08	0.06	43	36	--		0.02	--			0.016	Measured in silt box.
										Terraces 16, 17, 18 no runoff.									
3/15	G.S.2		2	1:05A	205	0.18	0.12	0.08	0.06	47	34	24 hours		0.14	0.39	2 A		0.107	
										G.S. 4 and Terraces 16, 17, 18 no runoff.									
3/16-17	G.S.2		2	5:30A	135	0.04	0.06	0.04	0.02	52	34	12:01A	3 A	0.13	0.31	7 A		0.208	
										G.S. 4 and Terraces 16, 17, 18 no runoff.									Snow all gone on G.S. 4 and terraces.
3/17-18	G.S.2	68.2	2	1:40A	2215	0.91	0.24	0.20	0.14	54	36	3 A	12 P	0.52	3.08	7:30A	(18) 0.39	2.198	No frozen ground.
* 3/17-18	G.S.4	2.33	11	1:40A	2225	0.97	0.24	0.20	0.14	54	36	5:30A	4:30P	0.29	0.20	7:15A	(18) 0.68	1.177	Cover for G.S. 4 and Terraces
	Ter.16	.82								54	36	5:30A	6 P	0.23	0.04	7:20A	(18) 0.93	2.002	16, 17, 18, winter wheat
	Ter.17	.92								54	36	--	5 P	0.19	0.05	7:20A	(18) 0.92	1.087	following peas.
	Ter.18	1.18								54	36	7:23A	4 P	0.08	0.04	8:10A	(18) 0.93	0.225	0-0.1 ft. tall.
3/19	G.S.2		2			0.14		Hail		50	41	24 hours		0.12	6.32	4:30P		0.242	Cover for G.S. 2, 57.8 acres
	G.S.4									50	41	3:45P	5 P	0.03	0.49	4:16P		0.136	winter wheat planted in Oct.
	Ter.16									50	41	3:50P	5:20P	0.02	0.07	4:19P		0.025	1931, 10.4 acres winter wheat
	Ter.17									50	41	3:50P	5:15P	0.02	0.07	4:15P		0.110	
	Ter.18									50	41	--		0.02	--			0.010	Measured in silt box.
3/20	G.S.2		2			0.11		Hail		46	32	24 hours		0.08	2.73	3:23P		0.110	
	G.S.4									46	32	3:05P	4:30P	0.02	0.14	3:30P		0.090	
	Ter.16									46	32	3:15P	4:40P	0.01	0.04	3:25P		0.326	
	Ter.17									46	32	--			0.05	--		0.010	Clock stopped.
	Ter.18									46	32	3:24P	5 P	0.01	0.03	3:25P			
3/21	G.S.2		2	5:25P	155	0.16	0.24	0.16	0.16	46	34	24 hours		0.09	2.57	6:30P		0.173	
	G.S.4									46	34	5:20P	8:30P	0.05	0.18	6:42P		2.8735	
	Ter.16									46	34	--		0.03	--			0.210	Est. Recorder out of order.
	Ter.17									46	34	6:19P	8:40P	0.02	0.03	6:42P		0.110	
	Ter.18									46	34	6:25P	9:30P	0.01	0.02	6:40P		0.056	
3/22	G.S.2		2	5:50A	100	0.04	0.04	0.04	0.04	46	31	24 hours		0.05	0.20	10 P		0.092	
	G.S.4									46	31	No runoff.							
	Ter.16									46	31	Ditto							
	Ter.17									46	31	"							
	Ter.18									46	31	"							
*3/23			2	6:40P	787	0.48	0.24	0.18	0.18	47	35								
3/23-24	G.S.2									49	31	12 P	12 P	0.21	7.39	6 A	(24) 0.27	1.475	Very heavy wind and rain.
3/24	G.S.4									49	43	2:30A	9:30A	0.30	0.49	5:43A	0.18	2.583	
	Ter.16									49	43	--			0.10	--			Clock stopped.
	Ter.17									49	43	2 A	7 A	0.16	0.12	5:35A	0.32	1.086	

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Wash.

Month March-April, 1932

Sheet 5 of 9 sheets

Date	Watershed		Rainfall				Maximum Intensity			Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										March (Continued)									
3/24	Ter. 18									49	43	3:20A	8:40A	0.18	0.18	6 A	0.30	0.568	
3/25	G.S. 2	63.2								40	36	24 hours		0.05	0.16	8 A		0.007	
	G.S. 4	2.33								40	36	No runoff							
	Ter. 16	.82								40	36	Ditto							
	Ter. 17	.92								40	36	"							
	Ter. 18	1.18								40	36	"							
3/26	G.S. 2		2			0.04	High wind. No record.			40	32	24 hours		0.07	0.31	9 A		0.038	
	G.S. 4									40	32	No runoff							
	Ter. 16									40	32	Ditto							
	Ter. 17									40	32	"							
	Ter. 18									40	32	"							
3/26-27	G.S. 2									44	32	12P	6 P	0.03	0.16	12 P		0.001	
3/27-28	G.S. 2		2	12:15P	2166	0.74	0.48	0.32	0.24	45	36	6 P	7 P	0.39	11.31	11:53P(27)	0.35	2.400	
	G.S. 4									45	36	9:30P	12 M	0.74	0.71	11:51P(27)	0.00	6.030	
	Ter. 16									45	36				0.19				Clock stopped.
	Ter. 17									45	36	9:27P	12 M	0.56	0.25	11:41P(27)	0.18	2.650	
	Ter. 18									45	36	10:47P	11:50A	0.37	0.10	11:40P(27)	0.37	1.166	
3/28	G.S. 2									45	40	7 P	12 P	0.01	0.16	2 P		0.009	
3/29	G.S. 2		2			0.01				49	33	24 hours		0.04	0.13	12 M		0.006	
3/30	G.S. 2		2	3:30A	300	0.04	0.04	0.04	0.04	51	39	24	"	0.04	0.13	12 M		0.006	
3/31	G.S. 2									62	41	24	"	0.04	0.16	12 M		0.008	
										April									
4/1	G.S. 2									54	45	24 hours		0.03	0.11	9 A		0.002	
4/2	G.S. 2		2	2:45P	180	0.15	0.24	0.20	0.20	49	41	24	"	0.06	2.82	5:38P		0.010	
	G.S. 4									49	41	5:20P	6:30P	0.03	0.25	5:25P		0.140	
	Ter. 16									49	41			0.02				0.082	Measured in silt box.
	Ter. 17									49	41			0.02				0.101	" " " "
	Ter. 18									49	41			0.02				0.045	" " " "
4/3-12	G.S. 2									73	31	240 hours		0.18	0.57	9:30A(4)		0.018	
												No runoff on G.S. 4 or Terraces 16, 17, 18.							
4/4			2	9 A	150	0.07	0.08	0.08	0.06	45	36								
4/5			2	6:50A	30	0.02	0.04	0.04	0.04	44	34								

Form S. C. S.-343

UNITED STATES
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month April-May-June-July August-September, 19 32

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Sheet 6 of 9 sheets

Project Pullman, Washington

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F.)	Temperature Minimum (degrees F.)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										April (Continued)									
4/14	G.S.2	68.2	2	12:55A	22	0.07	0.24	0.16	0.14	54	42	1 A	8 A	0.003	0.16	1:10A		0.000	
										G.S. 4 and Terraces 16, 17 and 18 no runoff.									
4/16			2	12 M	30	0.02	0.04	0.04	0.04	53	48		No runoff.						
4/17			2	1:15P	465	0.27	0.24	0.12	0.08	52	38		Ditto						
4/19	G.S.2		2	3:45A	405	0.27	0.24	0.24	0.20	45	41	7 A	6 P	0.01	0.93	9:15A		0.000	
										G.S. 4 and Terraces 16, 17 and 18 no runoff.									
4/20			2	3:55P	12	0.05	0.24	0.20	0.10	49	32		No runoff.						
4/21	G.S.2		2	3:45P	245	0.18	0.18	0.12	0.10	49	33	4 P	12 P	0.01	0.16	5 P		0.000	
										G.S. 4 and Terraces 16, 17 and 18 no runoff.									
4/28-29			2	6:30P	810	0.21	0.72	0.48	0.26	59	42		No runoff.						
										May									
5/1			2	3:35A	210	0.09	0.18	0.12	0.06	60	44		No runoff.						
5/3-4			2	5:55P	985	0.56	0.12	0.08	0.06	57	37		Ditto						
5/19			2	7:30P	225	0.10	0.18	0.08	0.06	76	49		"						
5/20			2	1:04P	21	0.13	1.08	0.36	0.26	69	52		"						
5/20-21			2	6:35P	590	0.44	0.36	0.28	0.22	59	46		"						
5/21-22			2	8:00A	1390	0.71	0.24	0.20	0.16	55	41		"						
5/29			2	7 A	180	0.04	0.02	0.02	0.02	62	48								
										June									
6/15			2	7 A	390	0.28	0.24	0.20	0.10	66	34		"						
										July									
7/3			2	12:55A	105	0.35	0.48	0.32	0.26	68	56		"						
7/3			2	1:05P	213	0.29	0.36	0.24	0.20	68	56		"						
7/13			2	2:15	55	0.03		--		65	55		"						
7/30			2	7:30P	115	0.11	0.04	0.04	0.04	67	51		"						
										August									
8/21			2	10:22P	13	0.15	1.20	0.06	0.30	80	50		"						Harvesting operations on all areas by combine harvester with straw spreading attachment.
										September									
9/19			2	12 M	195	0.15	0.12	0.08	0.06	51	43		"						

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month October-November, 19 32

Sheet 7 of 9 sheets

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										October									
10/11-12			2	11:15P	90	0.03	0.02	0.02	0.02	66	43		No runoff.						
10/12			2	5:50A	60	0.05	0.08	0.08	0.05	56	49		Ditto						
10/12			2	12:40	285	0.25	0.24	0.16	0.10	56	49		"						
10/12			2	8 P	100	0.22	0.36	0.28	0.20	56	49		"						
10/13-14			2	7:30P	540	0.55	0.60	0.28	0.28	64	50		"						
10/15			2	12:50A	400	0.13	0.12	0.08	0.08	55	49		"						
10/16			2	6:30P	10	0.02	0.12	0.08	0.04	53	43		"						
10/22			2	6:30A	250	0.15	0.12	0.06	0.06	46	45		"						
10/29			2	12 M	350	0.36	0.12	0.12	0.12	41	31		"						
10/31			2	7:40A	800	0.48	0.12	0.12	0.10	42	33		"						
										November									
11/1			2	2:30A	330	0.13	0.04	0.04	0.04	48	34		"						
11/4-5			2	9:30A	360	0.25	0.24	0.16	0.14	53	34		"						
11/5-6			2	11:40A	770	0.60	0.36	0.16	0.16	53	36		"						
11/8			2	1:20A	1380	0.95	0.12	0.12	0.10	44	37		"						
11/11			2	10:20A	60	0.03	0.06	0.04	0.02	39	29		"						
11/12			2	8:40A	500	0.24	0.06	0.06	0.06	50	32		"						
11/12-13	G.S.2		2	10:45P	835	0.53	0.12	0.12	0.08	52	32	4 A	12 P	0.03	0.16	12 M(12)		0.082	
11/15-16	G.S.2		2	11:30A	670	0.40	0.36	0.16	0.12	50	33	36 hours		0.013	0.02	12 M		0.018	
11/15	G.S.4									46	33			0.004				0.000	Measured in silt box.
	Ter.15									46	33			0.003				0.000	" " " "
	Ter.16									46	33			0.006				0.002	" " " "
	Ter.17									46	33		No runoff.						" " " "
	Ter.18									46	33			0.010				0.001	" " " "
*11/16-17	G.S.2		2	10 A	1050	0.80	0.12	0.12	0.12	57	53	12 M	12 P	0.047	0.57	4:30P	0.75	0.267	
	G.S.4									57	33	1 P	8 P	0.038	0.02	5 P	0.76	0.004	
	Ter.15									57	33		9 P	0.081	0.018	4 P	0.72	0.021	" " " " to 4 PM.
	Ter.16									57	33		8:30P	0.036	0.004	4 P	0.76	0.013	" " " " to 3:30 PM.
	Ter.17									57	33	--		0.019	--		0.78	0.010	" " " "
	Ter.18									57	33	12 P	8 P	0.084	0.024	5 P	0.72	0.014	
11/17-30	G.S.2									61	32	312 hours		0.06	0.04	12 M(17)		0.025	
11/17-30	G.S.4									61	32		No runoff.						
	Ter.15									61	32		"	"					
	Ter.16									61	32		"	"					
	Ter.17									61	32		"	"					
	Ter.18									61	32		"	"					
11/21			2	6:40A	60	0.03	0.04	0.04	0.02	53	37								
11/21			2	4:30P	10	0.06	0.24	0.24	0.12	53	37								
11/28			2	2 A	130	0.08	0.06	0.04	0.04	53	37								
11/28			2	3 P	40	0.02	0.04	0.04	0.04	53	37								
11/30			2	6:30P	110	0.06	0.12	0.08	0.06	53	37								

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Month December, 19 32

Sheet 8 of 9 sheets

Project Pullman, Washington

Date	Watershed		Rainfall				Maximum Intensity			Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate Cu ft. sec.	Maximum Rate Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										December									
										55	35	72 hours		0.01				0.000	
12/1-3	G.S.2	68.2								G.S. 4 and Terraces 15, 16, 17 and 18 no runoff.									
12/4			2	9:30P	90	0.04	0.09	0.08	0.04	50	37								
12/6			2			0.13		Snow		29	25								
12/16			2			0.07		"		28	14								
12/18			2			0.14		"		35	11								
12/19			2			0.64				40	25								
12/19-21	G.S.2	68.2								40	25	8 A	12 P	0.11	0.71	12:30A	(19)	0.015	Melting snow and rain.
12/19	G.S.4	2.33								40	25	9 A	12 P	0.29	0.12	12 M		0.007	" " " "
12/19	Ter.15	.98								40	25	9 A	12 P	0.05	0.004	12 M		0.001	" " " "
	Ter.16	.82								40	25	9 A	7 P	0.03	0.004	2 P		0.000	" " " "
	Ter.17	.92								40	25	9 A	6 P	0.02	0.004	2 P		0.000	" " " "
	Ter.18	1.18								40	25	9 A	9 P	0.10	0.07	2:10P		0.004	" " " "
12/21-25	G.S.2									42	23	144 hours		0.08	0.16	12:01A	(20)	0.002	Melting snow and ground water.
12/20-25	G.S.4									42	23	No runoff							
12/20	Ter.15									38	34	8 A	5 P	0.02	0.004	10 A		0.000	
12/20	Ter.16									38	34			0.03				0.000	Measured in silt box.
12/20	Ter.17									38	34			0.02				0.000	" " " "
12/20	Ter.18									38	34	9 A	6 P	0.01	0.001	10 A		0.000	
										37	23	No runoff on Terraces 15, 16, 17, 18 and G.S. 4.							
12/22			2			0.27		Snow		35	30	Ditto							
12/24			2			0.33		"		42	30	12 P	12 P	0.62	2.73	2 A		0.078	Melting snow and rain.
12/25-26	G.S.2		2	11 P	190	0.33	0.12	0.12	0.12	42	31	12:01A	8 P	0.91	0.20	10 A		0.012	" " " "
12/26	G.S.4									42	31	12:01A	3 P	0.49	0.54	3 A		0.034	" " " "
	Ter.15									42	31	12:01A	6 P	0.27	0.018	4 A		0.025	" " " "
	Ter.16									42	31	12:01A	8 P	0.22	0.018	4 A		0.002	" " " "
	Ter.17									42	31	12:01A	7 P	0.24	0.038	10 A		0.003	" " " "
	Ter.18																		
12/27	G.S.2		2	9:35A	55	0.04	0.04	0.04	0.04	38	31	24 hours		0.08	0.39	2 P		0.019	" " " "
	G.S.4									38	31	10 A	9 P	0.09	0.06	2 P		0.003	" " " "
	Ter.15									38	31	8:30A	7 P	0.08	0.013	12:30P		0.008	" " " "
	Ter.16									38	31	9 A	7 P	0.05	0.008	12 M		0.007	" " " "
	Ter.17									38	31	9 A	7:30P	0.03	0.008	11 A		0.000	" " " "
	Ter.18									38	31	9 A	7 P	0.01	0.002	12 M		0.000	" " " "
12/28	G.S.2									35	27	24 hours		0.03	0.11	12 M		0.006	Melting snow.
	G.S.4									35	27	No runoff							" "
	Ter.15									35	27	10 A	6 P	0.04	0.008	12 M			
	Ter.16									35	27	No runoff							" "
	Ter.17									35	27	10 A	6 P	0.05	0.013	3 P		0.001	" "
	Ter.18									35	27	9 A	5 P	0.01	0.001	2 P		0.000	" "

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

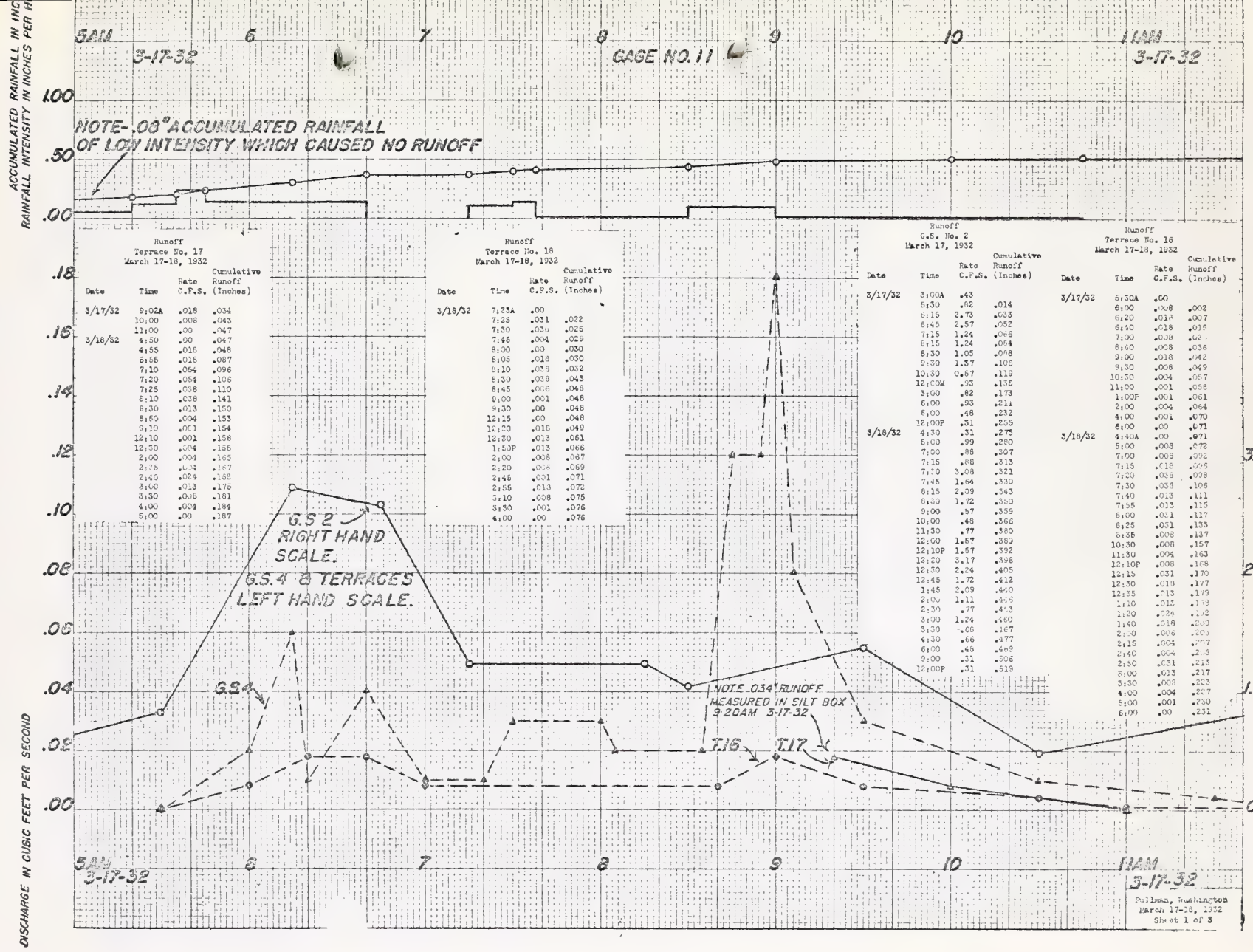
RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Month December, 1932

Sheet 9 of 9 sheets

Project Pullman, Washington

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F.)	Temperature Minimum (degrees F.)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acr.)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										December (Continued)									
12/29	G.S.2	60.2	2			0.30		Snow		40	28	24 hours		0.08	1.37	3:10		0.015	October to December, precipitation was about 2.00 inches above normal, most of excess occurring in November. The runoff of November was due to rain on saturated ground, while the December runoff was mostly from melting snow with ground frozen.
	G.S.4	2.33								40	28	1:20P	8 P	0.13	0.12	3 P		0.003	
	Ter.15	.93								40	28	12 M	8 P	0.11	0.02	3 P		0.015	
	Ter.16	.82								40	28	12:20P	7:30P	0.04	0.008	3 P		0.008	
	Ter.17	.82								40	28	10 A	7:30P	0.03	0.013	2:30P		0.002	
	Ter.18	1.15								40	28	8 A	5 P	0.02	0.018	2:10P		0.001	
12/30	G.S.2									36	21	24 hours		0.04	0.13	12 M		0.008	
										G.S.4 and Terraces 15, 16, 17 and 18 no runoff.									
12/31	G.S.2		2			0.10		Snow		37	23	24 hours		0.02	0.06	9 A		0.002	Vegetative cover: G.S. 2, 10.4 acres winter wheat stubble planted October 1931, 57.8 acres winter wheat planted October 1932. G.S. 4 and Terraces 15, 16, 17 and 18, winter wheat stubble.
										G.S.4 and Terraces 15, 16, 17 and 18 no runoff.									



Runoff
Terrace No. 17
March 17-18, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/17/32	9:02A	.018	.034
	10:00	.008	.043
	11:00	.00	.047
3/18/32	4:50	.00	.047
	4:55	.018	.048
	6:55	.018	.087
	7:10	.054	.096
	7:20	.054	.106
	7:25	.038	.110
	8:10	.038	.141
	8:30	.013	.150
	8:50	.004	.153
	9:10	.001	.154
	12:10	.001	.158
	12:30	.004	.158
	2:00	.004	.165
	2:35	.004	.167
	2:40	.024	.168
	3:00	.013	.175
	3:30	.008	.181
	4:00	.004	.184
	5:00	.00	.187

Runoff
Terrace No. 18
March 17-18, 1932

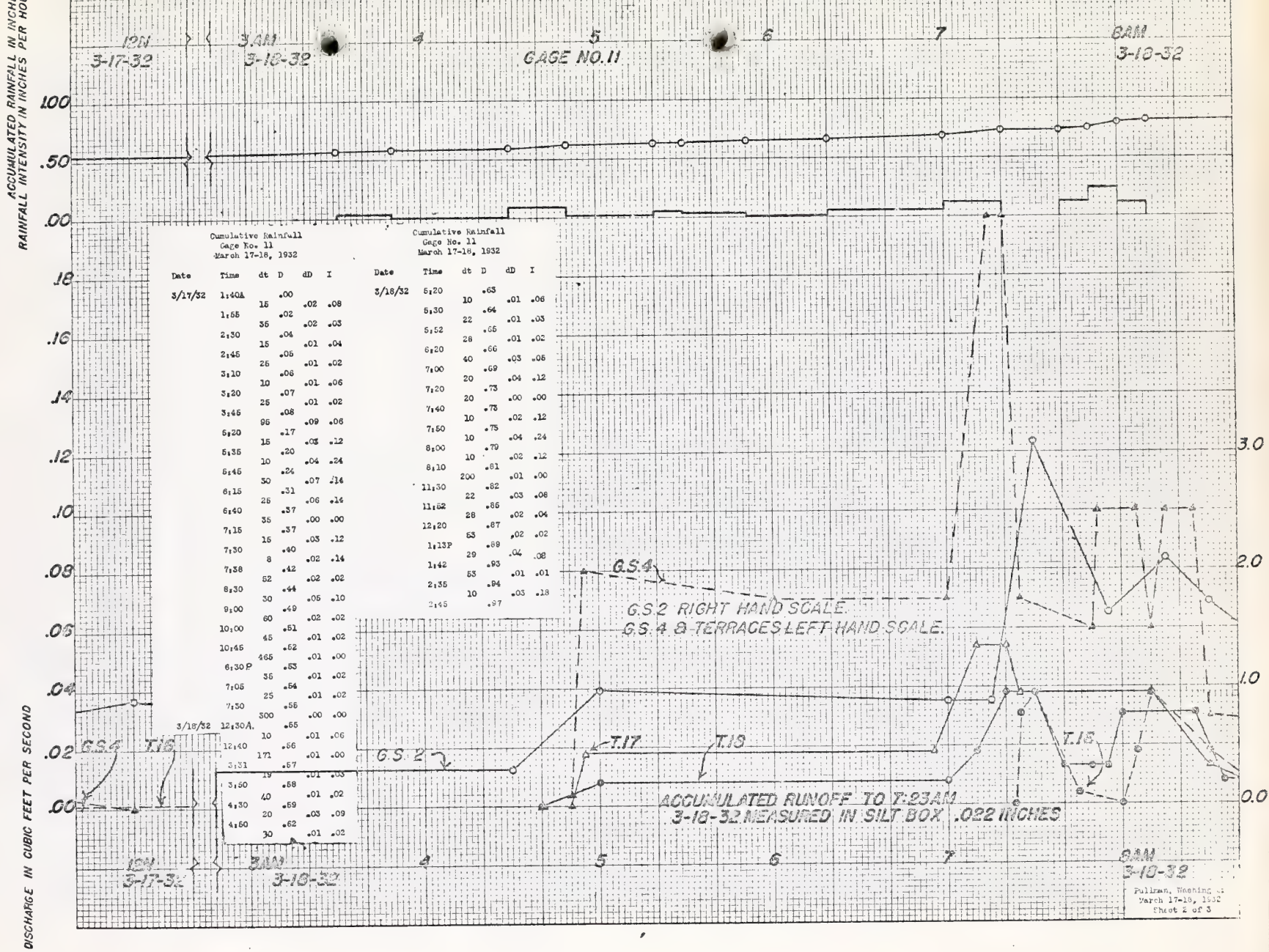
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/18/32	7:23A	.00	
	7:25	.031	.022
	7:30	.038	.025
	7:45	.004	.029
	8:00	.00	.030
	8:05	.018	.030
	8:10	.028	.032
	8:30	.038	.043
	8:45	.066	.048
	9:00	.001	.048
	9:30	.00	.048
	12:15	.00	.048
	12:20	.016	.049
	12:30	.013	.061
	1:50P	.013	.066
	2:00	.008	.067
	2:20	.006	.069
	2:45	.001	.071
	2:55	.013	.072
	3:10	.008	.075
	3:30	.001	.076
	4:00	.00	.076

Runoff
G.S. No. 2
March 17, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/17/32	3:00A	.43	
	5:30	.82	.014
	6:15	2.73	.033
	6:45	2.57	.052
	7:15	1.24	.066
	8:15	1.24	.064
	8:30	1.05	.068
	9:30	1.37	.106
	10:30	0.57	.119
	12:00M	.93	.136
	3:00	.82	.173
	6:00	.93	.211
	6:00	.48	.232
	12:00P	.31	.255
3/18/32	4:30	.31	.275
	6:00	.99	.280
	7:00	.88	.307
	7:15	.88	.313
	7:30	3.08	.321
	7:45	1.64	.330
	8:15	2.09	.343
	8:30	1.72	.350
	9:00	.57	.359
	10:00	.48	.366
	11:30	.77	.380
	12:00	1.57	.389
	12:10P	1.57	.392
	12:20	3.17	.398
	12:30	2.24	.405
	12:45	1.72	.412
	1:45	2.09	.420
	2:00	1.11	.429
	2:30	.77	.433
	3:00	1.24	.460
	3:30	.66	.467
	4:30	.66	.477
	6:00	.48	.489
	9:00	.31	.506
	12:00P	.31	.519

Runoff
Terrace No. 16
March 17-18, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/17/32	5:30A	.00	
	6:00	.008	.002
	6:20	.018	.007
	6:40	.018	.015
	7:00	.008	.02[illegible]
	8:40	.008	.036
	9:00	.018	.042
	9:30	.008	.049
	10:30	.004	.057
	11:00	.001	.058
	1:00P	.001	.061
	2:00	.004	.064
	4:00	.001	.070
	6:00	.00	.071
3/18/32	4:40A	.00	.071
	5:00	.008	.072
	7:00	.008	.092
	7:15	.018	.096
	7:20	.038	.098
	7:30	.038	.106
	7:40	.013	.111
	7:55	.013	.115
	8:00	.031	.117
	8:25	.031	.133
	8:35	.008	.137
	10:30	.008	.157
	11:30	.004	.163
	12:10P	.008	.168
	12:15	.031	.170
	12:30	.018	.177
	12:35	.013	.179
	1:10	.013	.179
	1:20	.024	.192
	1:40	.018	.200
	2:00	.006	.205
	2:15	.004	.207
	2:40	.004	.208
	2:50	.031	.213
	3:00	.013	.217
	3:30	.008	.223
	4:00	.004	.227
	5:00	.001	.230
	6:00	.00	.231

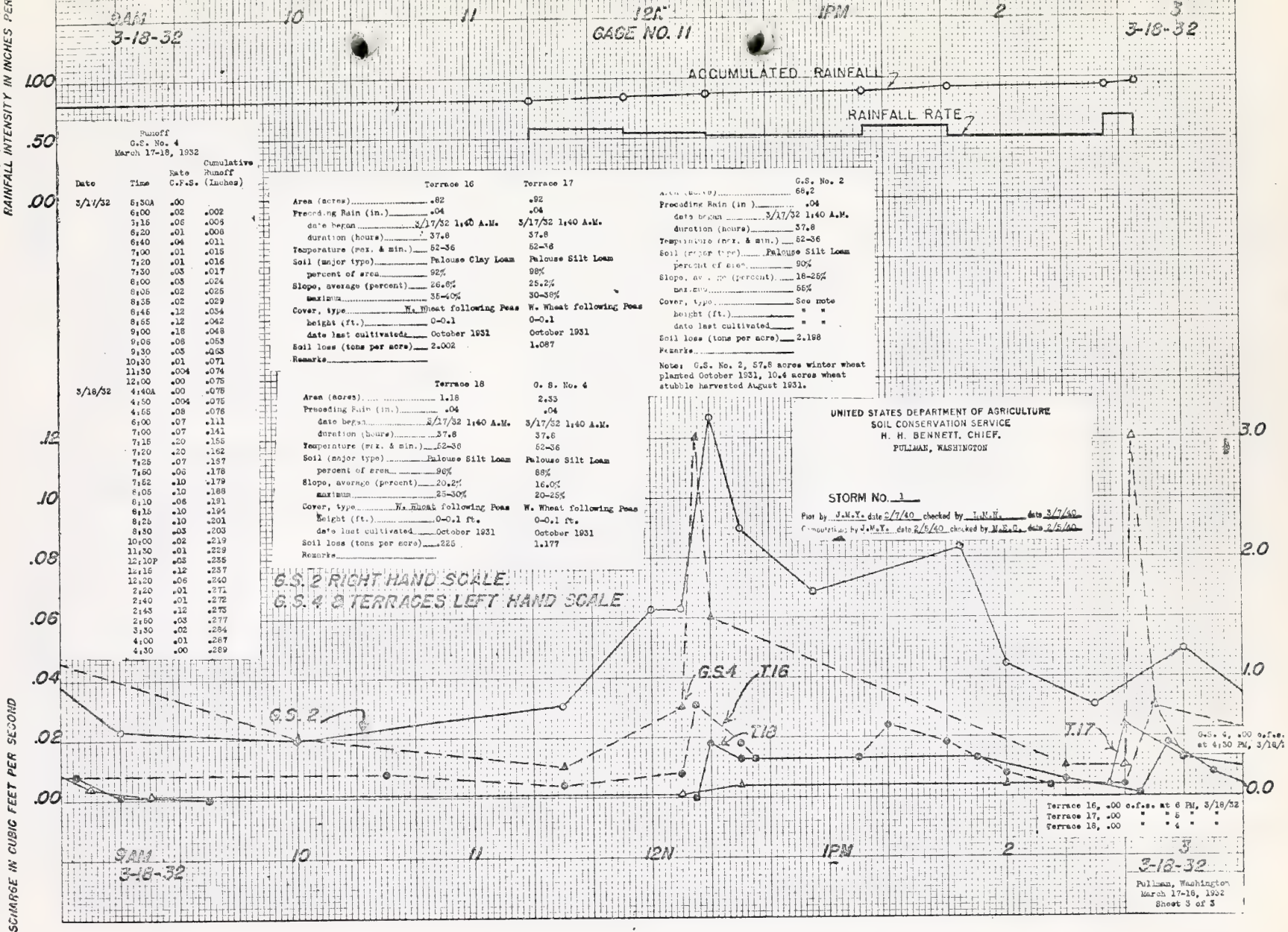


Cumulative Rainfall
Gage No. 11
March 17-18, 1932

Date	Time	dt	D	dD	I
3/17/32	1:40A		.00		
		15		.02	.08
	1:55		.02		
		35		.02	.03
	2:30		.04		
		15		.01	.04
	2:45		.05		
		25		.01	.02
	3:10		.06		
		10		.01	.06
	3:20		.07		
		25		.01	.02
	3:45		.08		
		95		.09	.06
	5:20		.17		
		15		.03	.12
	5:35		.20		
		10		.04	.24
	5:45		.24		
		30		.07	.14
	6:15		.31		
		25		.06	.14
	6:40		.37		
		35		.00	.00
	7:15		.37		
		15		.03	.12
	7:30		.40		
		8		.02	.14
	7:38		.42		
		52		.02	.02
	8:30		.44		
		30		.05	.10
	9:00		.49		
		60		.02	.02
	10:00		.51		
		45		.01	.02
	10:45		.52		
		465		.01	.00
	6:30P		.53		
		35		.01	.02
	7:05		.54		
		25		.01	.02
	7:30		.56		
		300		.00	.00
3/18/32	12:30A.		.55		
		10		.01	.06
	12:40		.56		
		171		.01	.00
	3:31		.57		
		19		.01	.03
	3:50		.58		
		40		.01	.02
	4:30		.59		
		20		.03	.09
	4:50		.62		
		30		.01	.02

Cumulative Rainfall
Gage No. 11
March 17-18, 1932

Date	Time	dt	D	dD	I
3/18/32	5:20		.63		
		10		.01	.06
	5:30		.64		
		22		.01	.03
	5:52		.65		
		28		.01	.02
	6:20		.66		
		40		.03	.08
	7:00		.69		
		20		.04	.12
	7:20		.73		
		20		.00	.00
	7:40		.73		
		10		.02	.12
	7:50		.75		
		10		.04	.24
	8:00		.79		
		10		.02	.12
	8:10		.81		
		200		.01	.00
	11:30		.82		
		22		.03	.08
	11:52		.85		
		28		.02	.04
	12:20		.87		
		53		.02	.02
	1:13P		.89		
		29		.04	.08
	1:42		.93		
		53		.01	.01
	2:35		.94		
		10		.03	.18
	2:45		.97		



Runoff
G.S. No. 4
March 17-18, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/17/32	5:30A	.00	
	6:00	.02	.002
	3:15	.06	.006
	6:20	.01	.006
	6:40	.04	.011
	7:00	.01	.015
	7:20	.01	.016
	7:30	.03	.017
	8:00	.03	.024
	8:05	.02	.025
	8:35	.02	.029
	8:45	.12	.034
	8:55	.12	.042
	9:00	.18	.048
	9:05	.08	.053
	9:30	.03	.063
	10:30	.01	.071
	11:30	.004	.074
	12:00	.00	.075
3/18/32	4:40A	.00	.075
	4:50	.004	.075
	4:55	.08	.076
	6:00	.07	.111
	7:00	.07	.141
	7:15	.20	.155
	7:20	.20	.162
	7:25	.07	.167
	7:50	.06	.176
	7:52	.10	.179
	8:05	.10	.188
	8:10	.08	.191
	8:15	.10	.194
	8:25	.10	.201
	8:50	.03	.203
	10:00	.02	.219
	11:50	.01	.229
	12:10P	.03	.235
	12:15	.12	.237
	12:20	.06	.240
	2:20	.01	.271
	2:40	.01	.272
	2:43	.12	.273
	2:50	.03	.277
	3:30	.02	.284
	4:00	.01	.287
	4:30	.00	.289

	Terrace 16	Terrace 17
Area (acres)	.82	.92
Preceding Rain (in.)	.04	.04
date began	3/17/32 1:40 A.M.	3/17/32 1:40 A.M.
duration (hours)	37.8	37.8
Temperature (max. & min.)	52-36	52-36
Soil (major type)	Palouse Clay Loam	Palouse Silt Loam
percent of area	92%	98%
Slope, average (percent)	26.6%	25.2%
maximum	35-40%	30-38%
Cover, type	W. Wheat following Peas	W. Wheat following Peas
height (ft.)	0-0.1	0-0.1
date last cultivated	October 1931	October 1931
Soil loss (tons per acre)	2.002	1.087
Remarks		

	Terrace 18	G. S. No. 4
Area (acres)	1.18	2.33
Preceding Rain (in.)	.04	.04
date began	3/17/32 1:40 A.M.	3/17/32 1:40 A.M.
duration (hours)	37.8	37.8
Temperature (max. & min.)	52-36	52-36
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	98%	88%
Slope, average (percent)	20.2%	16.0%
maximum	25-30%	20-25%
Cover, type	W. Wheat following Peas	W. Wheat following Peas
height (ft.)	0-0.1 ft.	0-0.1 ft.
date last cultivated	October 1931	October 1931
Soil loss (tons per acre)	.225	1.177
Remarks		

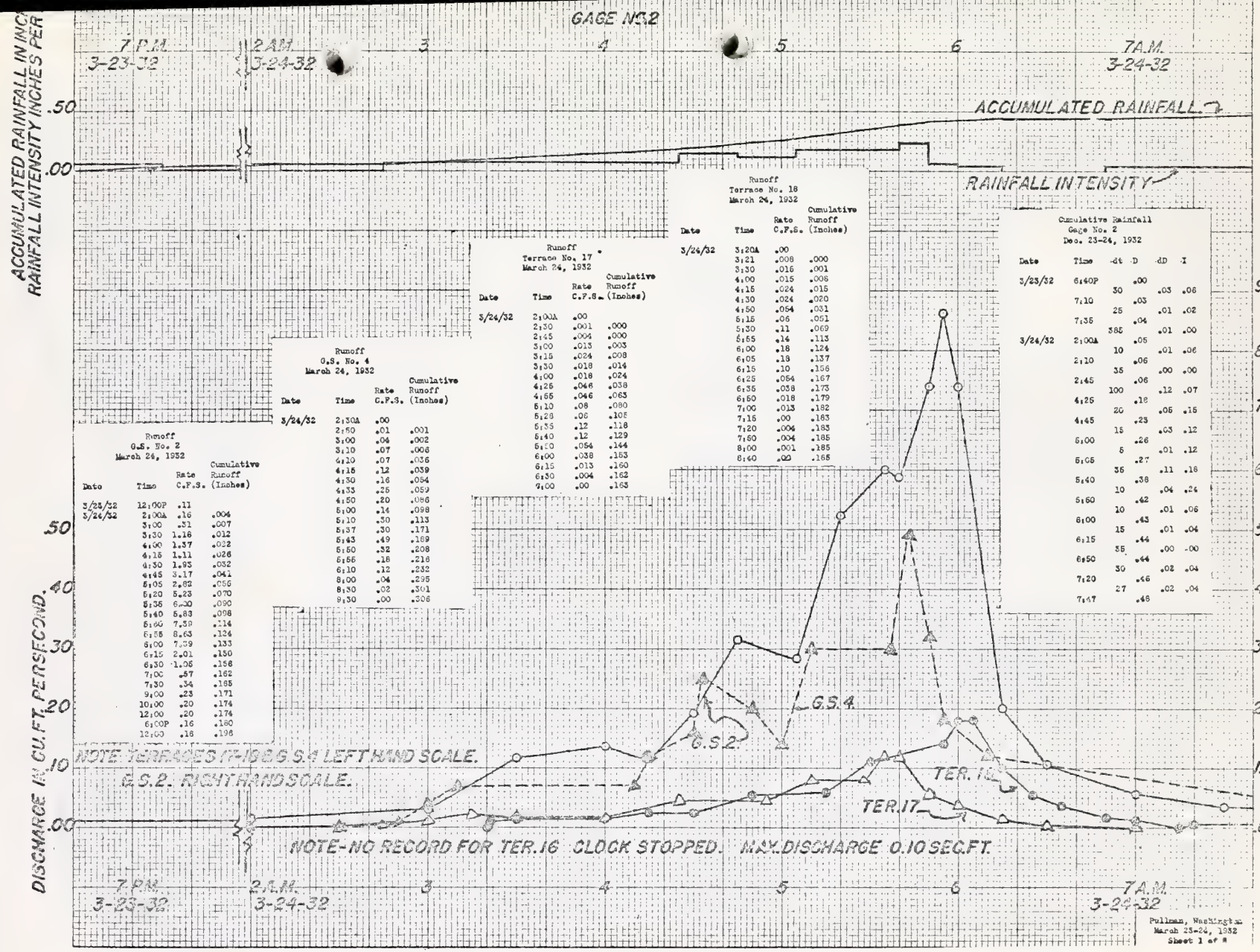
	G.S. No. 2
Area (acres)	68.2
Preceding Rain (in.)	.04
date began	3/17/32 1:40 A.M.
duration (hours)	37.8
Temperature (max. & min.)	52-36
Soil (major type)	Palouse Silt Loam
percent of area	90%
Slope, average (percent)	18-25%
maximum	55%
Cover, type	See note
height (ft.)	" "
date last cultivated	" "
Soil loss (tons per acre)	2.198
Remarks	

Note: G.S. No. 2, 57.8 acres winter wheat planted October 1931, 10.4 acres wheat stubble harvested August 1931.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

STORM NO. 1

Plot by J.M.Y. date 2/7/40 checked by L.N.N. date 3/7/40
Computation by J.M.Y. date 2/5/40 checked by M.E.G. date 2/5/40



Runoff
G.S. No. 2
March 24, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/23/32	12:00P	.11	
3/24/32	2:00A	.16	.004
	3:00	.31	.007
	3:30	1.16	.012
	4:00	1.37	.022
	4:15	1.11	.026
	4:30	1.93	.032
	4:45	3.17	.041
	5:05	2.82	.056
	5:20	5.23	.070
	5:35	6.30	.090
	5:40	5.83	.098
	5:50	7.58	.114
	5:55	8.63	.124
	6:00	7.59	.133
	6:15	2.01	.150
	6:30	1.06	.158
	7:00	.57	.162
	7:30	.34	.165
	9:00	.23	.171
	10:00	.20	.174
	12:00	.20	.174
	6:00P	.16	.180
	12:00	.16	.196

Runoff
G.S. No. 4
March 24, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/24/32	2:30A	.00	
	2:50	.01	.001
	3:00	.04	.002
	3:10	.07	.006
	4:10	.07	.036
	4:15	.12	.039
	4:30	.16	.054
	4:33	.25	.059
	4:50	.20	.086
	5:00	.14	.098
	5:10	.30	.113
	5:37	.30	.171
	5:43	.49	.189
	5:50	.32	.208
	5:56	.18	.216
	6:10	.12	.232
	8:00	.04	.295
	8:30	.02	.301
	9:30	.00	.306

Runoff
Terrace No. 17
March 24, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/24/32	2:00A	.00	
	2:30	.001	.000
	2:45	.004	.000
	3:00	.013	.003
	3:15	.024	.008
	3:30	.018	.014
	4:00	.018	.024
	4:25	.046	.038
	4:55	.046	.063
	5:10	.08	.080
	5:28	.06	.105
	5:35	.12	.118
	5:40	.12	.129
	5:50	.054	.144
	6:00	.038	.153
	6:15	.013	.160
	6:30	.004	.162
	7:00	.00	.163

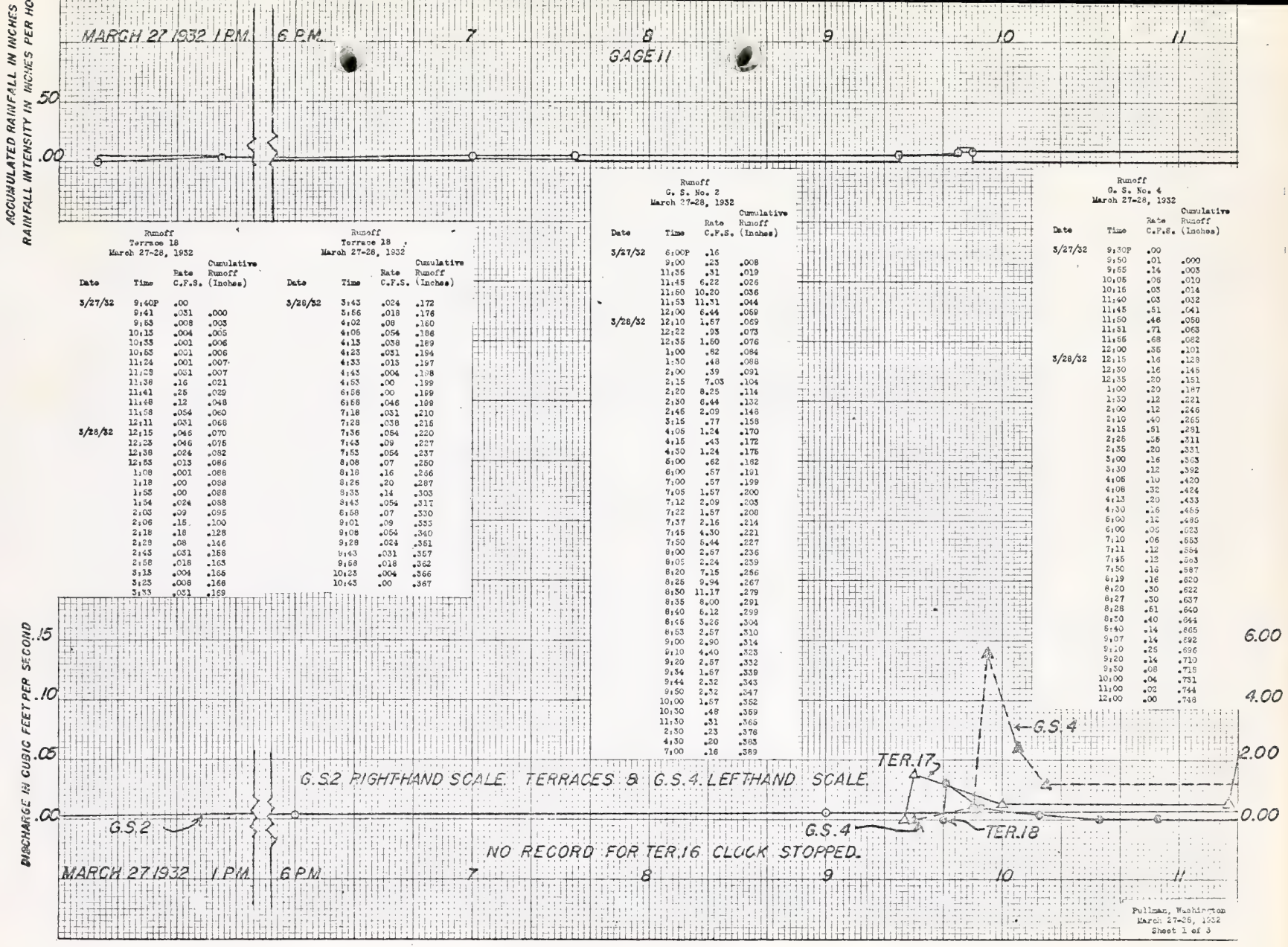
Runoff
Terrace No. 18
March 24, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/24/32	3:20A	.00	
	3:21	.008	.000
	3:30	.016	.001
	4:00	.015	.006
	4:15	.024	.015
	4:30	.024	.020
	4:50	.054	.031
	5:15	.06	.051
	5:30	.11	.069
	5:55	.14	.113
	6:00	.18	.124
	6:05	.18	.137
	6:15	.10	.156
	6:25	.054	.167
	6:35	.038	.173
	6:50	.018	.179
	7:00	.013	.182
	7:15	.00	.183
	7:20	.004	.183
	7:50	.004	.185
	8:00	.001	.185
	8:40	.00	.185

Cumulative Rainfall
Gage No. 2
Dec. 23-24, 1932

Date	Time	-dt	D	-dD	I
3/23/32	6:40P		.00		
	7:10	30	.03	.03	.06
	7:35	25	.04	.01	.02
		385		.01	.00
3/24/32	2:00A	10	.05	.01	.06
	2:10	35	.06	.00	.00
	2:45	100	.06	.12	.07
	4:25	20	.18	.05	.15
	4:45	15	.23	.03	.12
	5:00	5	.26	.01	.12
	5:05	35	.27	.11	.18
	5:40	10	.38	.04	.24
	5:50	10	.42	.01	.06
	6:00	15	.43	.01	.04
	6:15	35	.44	.00	.00
	6:50	30	.44	.02	.04
	7:20	27	.46	.02	.04
	7:47		.48		

Pullman, Washington
March 23-24, 1932
Sheet 1 of 8



Runoff
Terrace 18
March 27-28, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/32	9:40P	.00	
	9:41	.031	.000
	9:53	.008	.003
	10:13	.004	.005
	10:33	.001	.006
	10:53	.001	.006
	11:24	.001	.007
	11:29	.031	.007
	11:38	.16	.021
	11:41	.25	.029
	11:48	.12	.048
	11:58	.054	.060
	12:11	.031	.068
3/28/32	12:15	.046	.070
	12:23	.046	.075
	12:38	.024	.082
	12:53	.013	.086
	1:08	.001	.088
	1:18	.00	.088
	1:53	.00	.088
	1:54	.024	.088
	2:03	.09	.095
	2:06	.15	.100
	2:18	.18	.128
	2:28	.08	.146
	2:43	.031	.158
	2:58	.018	.163
	3:13	.004	.165
	3:23	.008	.166
	3:33	.031	.169

Runoff
Terrace 18
March 27-28, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/28/32	3:43	.024	.172
	3:56	.018	.176
	4:02	.08	.180
	4:06	.054	.186
	4:13	.038	.189
	4:23	.031	.194
	4:33	.013	.197
	4:43	.004	.198
	4:53	.00	.199
	6:58	.00	.199
	6:58	.046	.199
	7:18	.031	.210
	7:28	.038	.215
	7:36	.054	.220
	7:43	.09	.227
	7:53	.054	.237
	8:08	.07	.250
	8:18	.16	.266
	8:26	.20	.287
	8:33	.14	.303
	8:43	.054	.317
	8:58	.07	.330
	9:01	.09	.333
	9:08	.054	.340
	9:28	.024	.351
	9:43	.031	.357
	9:58	.018	.362
	10:23	.004	.366
	10:43	.00	.367

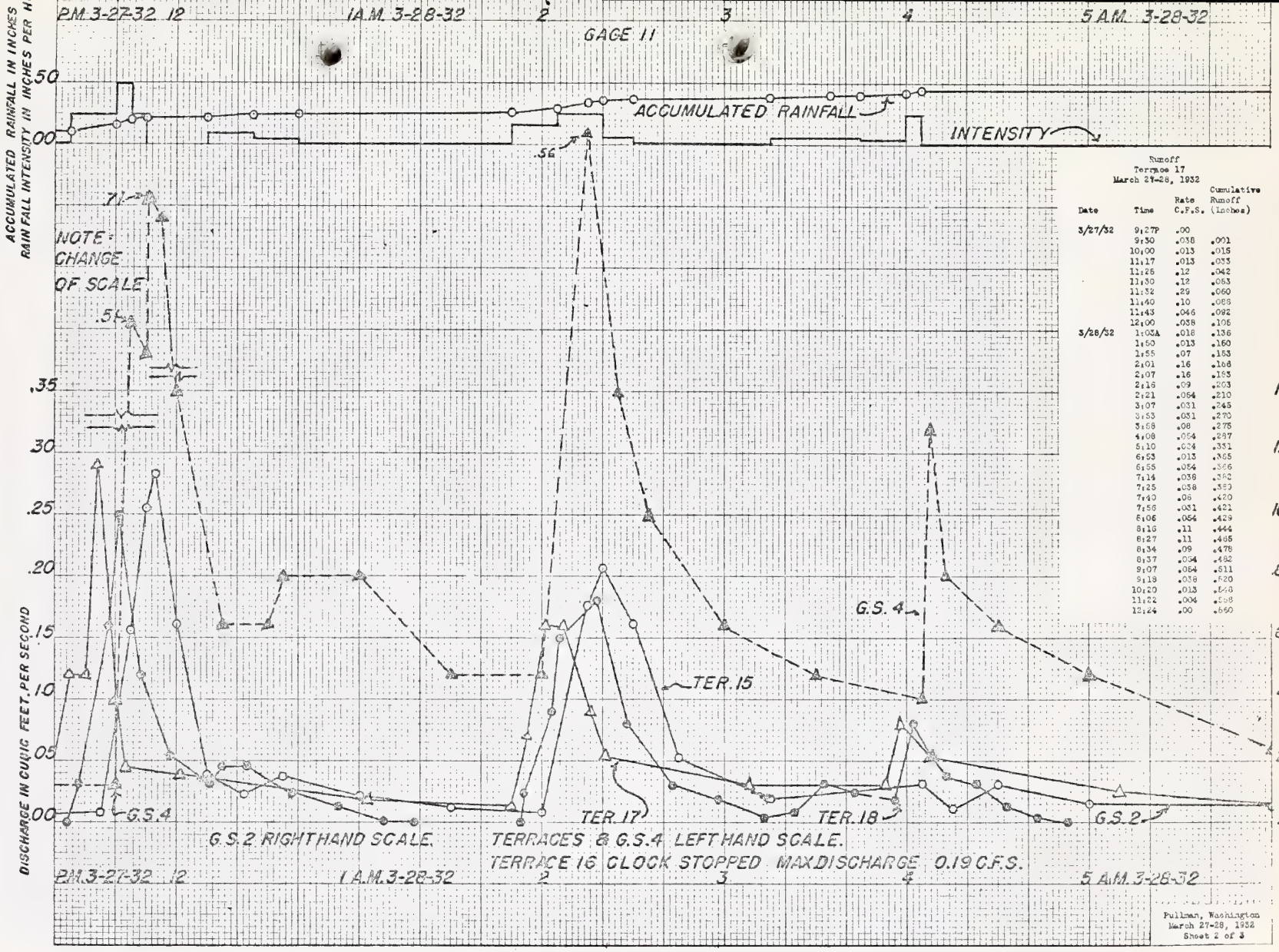
Runoff
G. S. No. 2
March 27-28, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/32	6:00P	.16	
	9:00	.23	.008
	11:35	.31	.019
	11:45	6.22	.026
	11:50	10.20	.036
	11:53	11.31	.044
	12:00	6.44	.059
3/28/32	12:10	1.57	.069
	12:22	.93	.073
	12:35	1.50	.076
	1:00	.82	.084
	1:30	.48	.088
	2:00	.39	.091
	2:15	7.03	.104
	2:20	8.25	.114
	2:30	6.44	.132
	2:45	2.09	.148
	3:15	.77	.158
	4:05	1.24	.170
	4:15	.43	.172
	4:30	1.24	.175
	5:00	.62	.182
	6:00	.57	.191
	7:00	.57	.199
	7:05	1.57	.200
	7:12	2.09	.203
	7:22	1.57	.208
	7:37	2.16	.214
	7:45	4.30	.221
	7:50	5.44	.227
	8:00	2.57	.236
	8:05	2.24	.239
	8:20	7.15	.256
	8:25	9.94	.267
	8:30	11.17	.279
	8:35	8.00	.291
	8:40	6.12	.299
	8:45	3.26	.304
	8:53	2.57	.310
	9:00	2.90	.314
	9:10	4.40	.323
	9:20	2.57	.332
	9:34	1.57	.339
	9:44	2.32	.343
	9:50	2.32	.347
	10:00	1.57	.352
	10:30	.48	.359
	11:30	.31	.366
	2:30	.23	.376
	4:30	.20	.383
	7:00	.16	.389

Runoff
G. S. No. 4
March 27-28, 1932

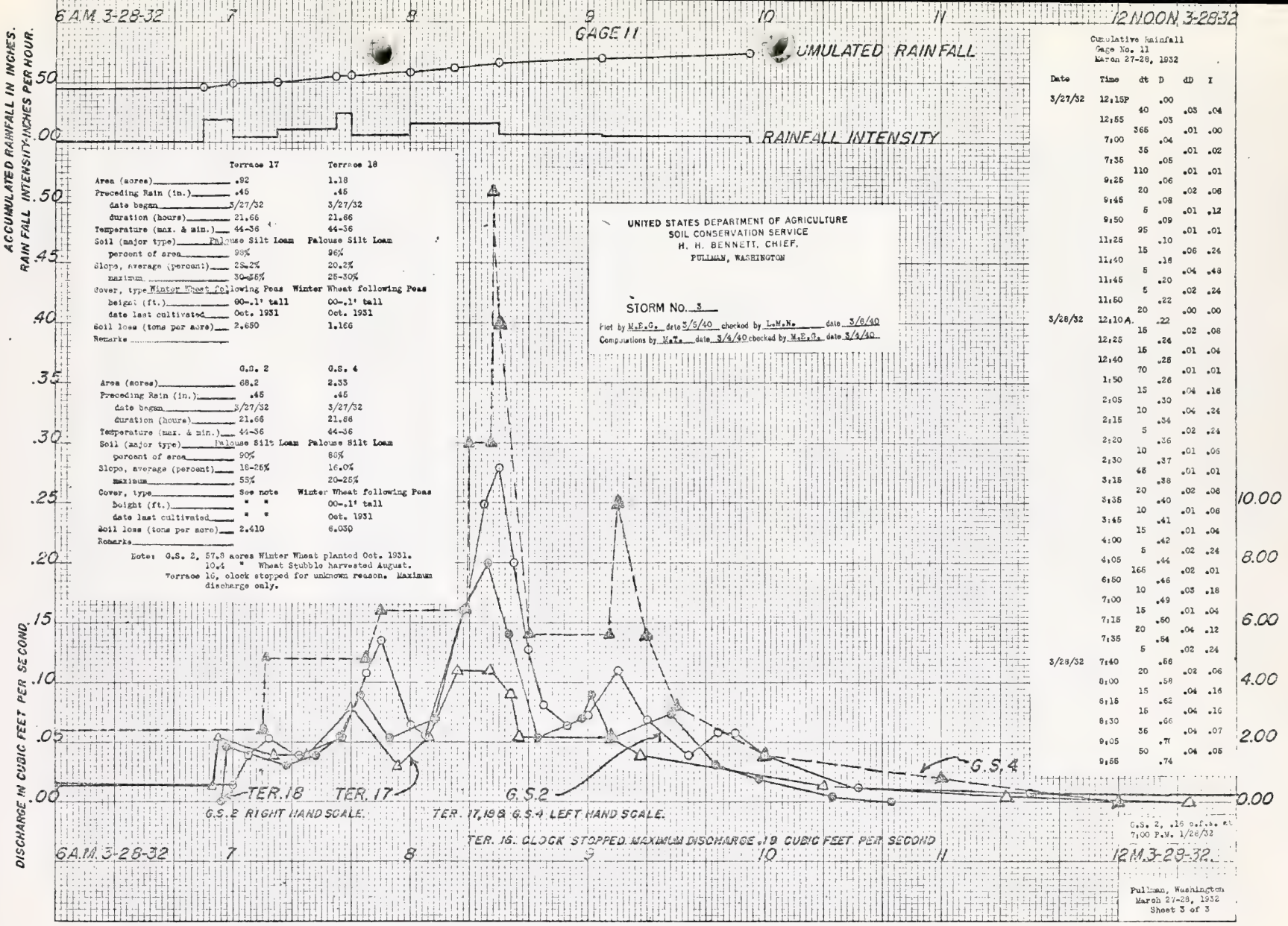
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/32	9:30P	.00	
	9:50	.01	.000
	9:55	.14	.003
	10:05	.06	.010
	10:16	.03	.014
	11:40	.03	.032
	11:45	.51	.041
	11:50	.46	.058
	11:51	.71	.063
	11:55	.68	.082
	12:00	.35	.101
3/28/32	12:15	.16	.128
	12:30	.16	.145
	12:35	.20	.151
	1:00	.20	.187
	1:30	.12	.221
	2:00	.12	.246
	2:10	.40	.265
	2:15	.51	.281
	2:25	.55	.311
	2:35	.20	.331
	3:00	.16	.363
	3:30	.12	.392
	4:05	.10	.420
	4:08	.32	.424
	4:13	.20	.433
	4:30	.16	.465
	5:00	.12	.486
	6:00	.05	.523
	7:10	.06	.553
	7:11	.12	.554
	7:45	.12	.563
	7:50	.16	.587
	8:19	.16	.620
	8:20	.30	.622
	8:27	.30	.637
	8:28	.51	.640
	8:30	.40	.644
	8:40	.14	.665
	9:07	.14	.692
	9:10	.25	.696
	9:20	.14	.710
	9:30	.08	.719
	10:00	.04	.731
	11:00	.02	.744
	12:00	.00	.748

Pullman, Washington
March 27-28, 1932
Sheet 1 of 3



Runoff
Terrace 17
March 27-28, 1932

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/32	9:27P	.00	
	9:30	.038	.001
	10:00	.013	.015
	11:17	.013	.033
	11:25	.12	.042
	11:30	.12	.053
	11:32	.29	.060
	11:40	.10	.066
	11:43	.046	.092
	12:00	.038	.105
3/28/32	1:03A	.016	.136
	1:50	.013	.160
	1:55	.07	.153
	2:01	.16	.168
	2:07	.16	.183
	2:16	.09	.203
	2:21	.064	.210
	3:07	.031	.245
	3:53	.031	.270
	3:58	.08	.275
	4:08	.054	.287
	5:10	.024	.331
	6:53	.013	.365
	6:55	.054	.366
	7:14	.038	.382
	7:25	.038	.389
	7:40	.06	.420
	7:56	.031	.421
	8:06	.054	.429
	8:16	.11	.444
	8:27	.11	.465
	8:34	.09	.475
	8:37	.054	.482
	9:07	.054	.511
	9:18	.038	.520
	10:20	.013	.548
	11:22	.004	.558
	12:24	.00	.560



	Terrace 17	Terrace 18
Area (acres)	.92	1.18
Preceding Rain (in.)	.45	.45
date began	3/27/32	3/27/32
duration (hours)	21.66	21.66
Temperature (max. & min.)	44-36	44-36
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	98%	96%
Slope, average (percent)	25-2%	20.2%
maximum	30-35%	25-30%
Cover, type	Winter Wheat following Peas	Winter Wheat following Peas
height (ft.)	00-.1' tall	00-.1' tall
date last cultivated	Oct. 1931	Oct. 1931
Soil loss (tons per acre)	2.650	1.166
Remarks		

	G.S. 2	G.S. 4
Area (acres)	68.2	2.33
Preceding Rain (in.)	.45	.45
date began	3/27/32	3/27/32
duration (hours)	21.66	21.66
Temperature (max. & min.)	44-36	44-36
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	88%
Slope, average (percent)	18-25%	16.0%
maximum	55%	20-25%
Cover, type	See note	Winter Wheat following Peas
height (ft.)	" "	00-.1' tall
date last cultivated	" "	Oct. 1931
Soil loss (tons per acre)	2.410	6.030
Remarks		

Note: G.S. 2, 57.8 acres Winter Wheat planted Oct. 1931.
10.4 " Wheat Stubble harvested August.
Terrace 16, clock stopped for unknown reason. Maximum discharge only.

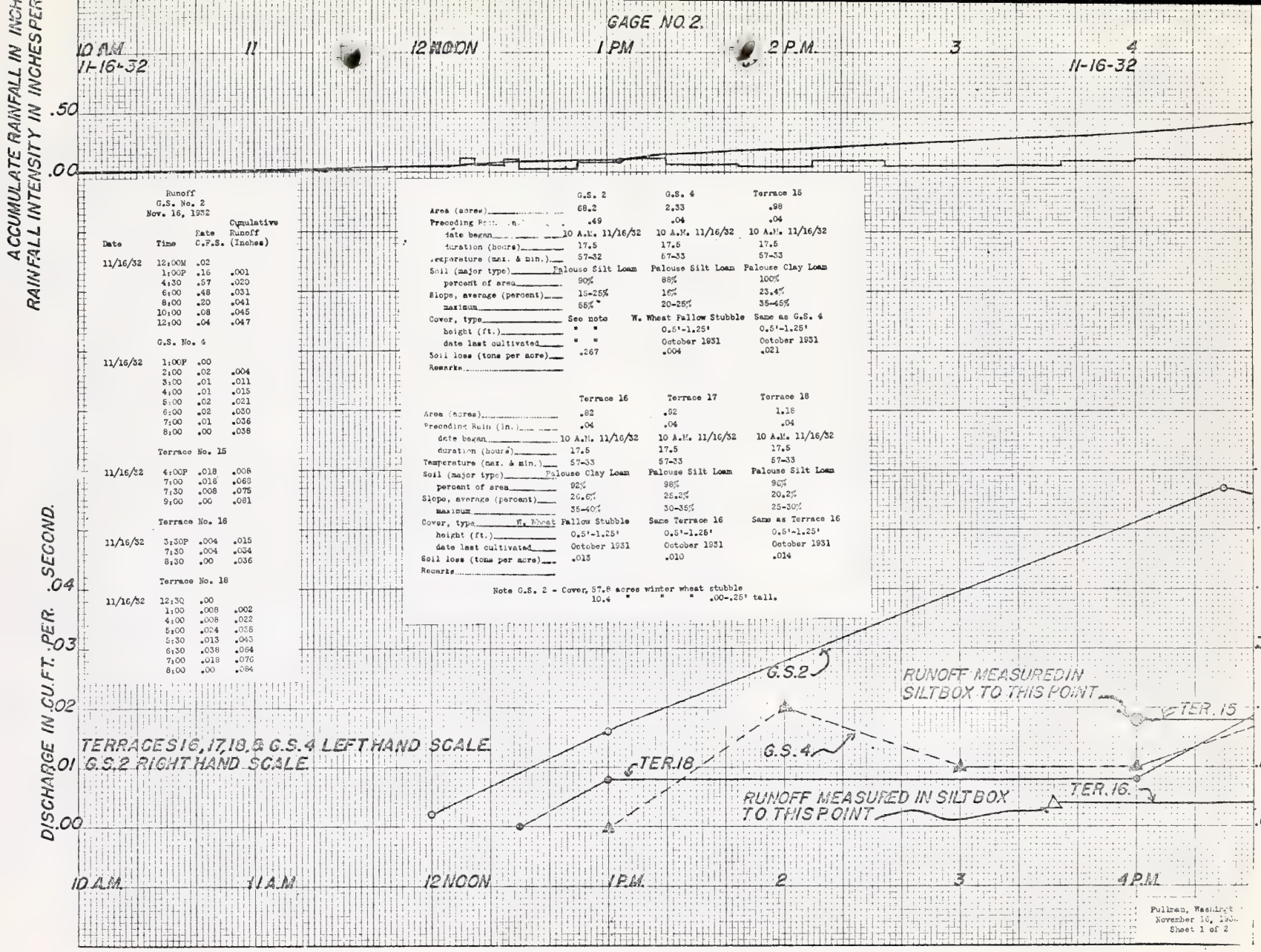
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

STORM No. 3

Plot by M.E.G. date 3/5/40 checked by L.M.N. date 3/8/40
Computations by M.T. date 3/4/40 checked by M.E.G. date 3/4/40

Cumulative Rainfall
Gage No. 11
March 27-28, 1932

Date	Time	dt	D	dD	I
3/27/32	12:15P		.00		
		40		.03	.04
	12:55		.03		
		365		.01	.00
	7:00		.04		
		35		.01	.02
	7:35		.05		
		110		.01	.01
	9:25		.06		
		20		.02	.06
	9:45		.08		
		5		.01	.12
	9:50		.09		
		95		.01	.01
	11:25		.10		
		15		.06	.24
	11:40		.16		
		5		.04	.48
	11:45		.20		
		5		.02	.24
	11:50		.22		
		20		.00	.00
3/28/32	12:10 A.		.22		
		15		.02	.08
	12:25		.24		
		15		.01	.04
	12:40		.25		
		70		.01	.01
	1:50		.26		
		15		.04	.16
	2:05		.30		
		10		.04	.24
	2:15		.34		
		5		.02	.24
	2:20		.36		
		10		.01	.06
	2:30		.37		
		45		.01	.01
	3:15		.38		
		20		.02	.06
	3:35		.40		
		10		.01	.06
	3:45		.41		
		15		.01	.04
	4:00		.42		
		5		.02	.24
	4:05		.44		
		165		.02	.01
	6:50		.46		
		10		.03	.18
	7:00		.49		
		15		.01	.04
	7:15		.50		
		20		.04	.12
	7:35		.54		
		5		.02	.24
3/29/32	7:40		.56		
		20		.02	.06
	8:00		.58		
		15		.04	.16
	8:15		.62		
		15		.04	.16
	8:30		.66		
		36		.04	.07
	9:05		.71		
		50		.04	.05
	9:55		.74		



Runoff
G.S. No. 2
Nov. 16, 1932

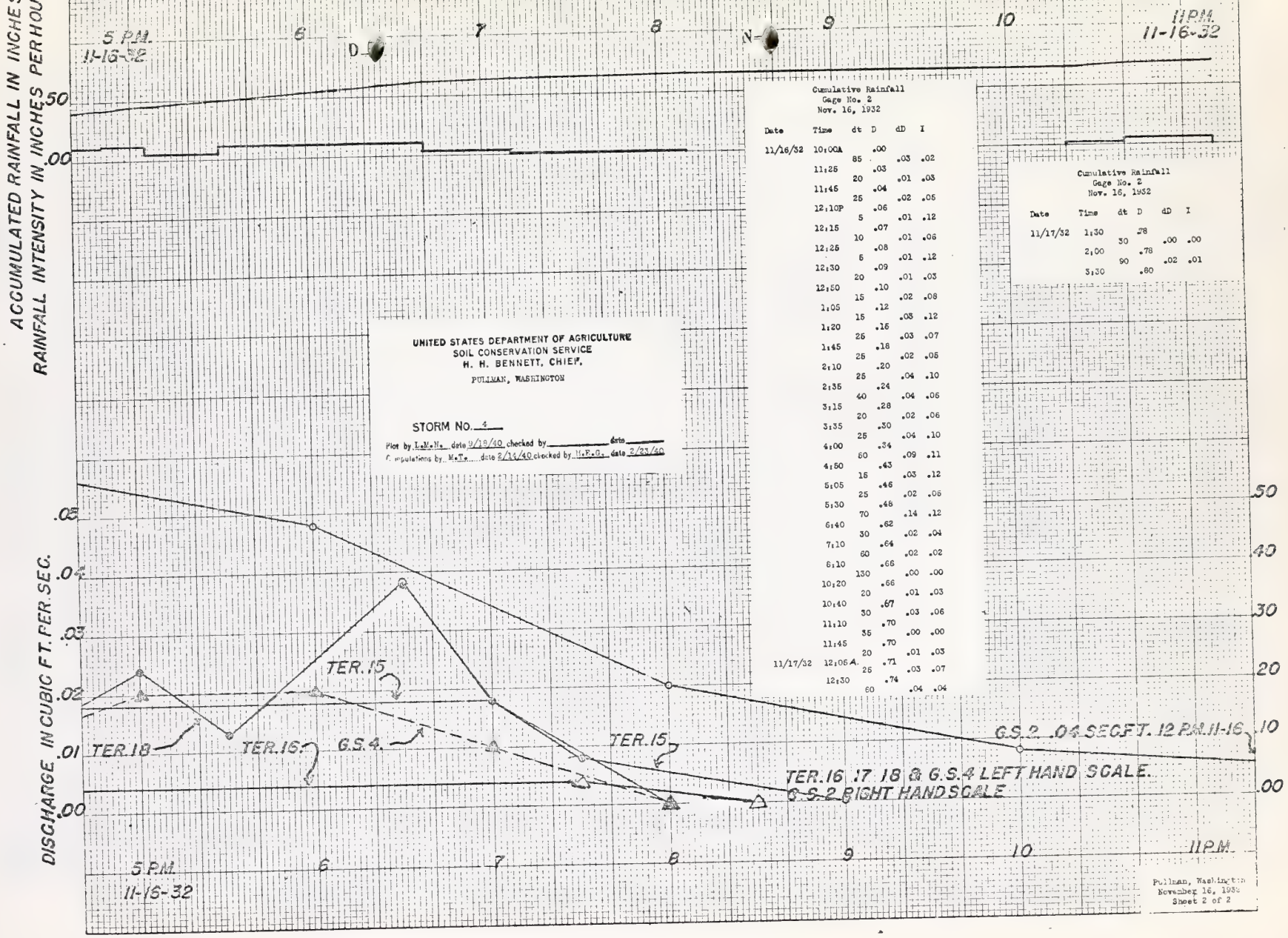
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
11/16/32	12:00M	.02	
	1:00P	.16	.001
	4:30	.57	.020
	6:00	.48	.031
	8:00	.20	.041
	10:00	.08	.045
	12:00	.04	.047
	G.S. No. 4		
11/16/32	1:00P	.00	
	2:00	.02	.004
	3:00	.01	.011
	4:00	.01	.015
	5:00	.02	.021
	6:00	.02	.030
	7:00	.01	.036
	8:00	.00	.038
	Terrace No. 15		
11/16/32	4:00P	.018	.008
	7:00	.016	.068
	7:30	.008	.075
	9:00	.00	.081
	Terrace No. 16		
11/16/32	3:30P	.004	.015
	7:30	.004	.034
	8:30	.00	.036
	Terrace No. 18		
11/16/32	12:30	.00	
	1:00	.008	.002
	4:00	.008	.022
	5:00	.024	.035
	5:30	.013	.043
	6:30	.038	.064
	7:00	.018	.076
	8:00	.00	.084

	G.S. 2	G.S. 4	Terrace 15
Area (acres)	68.2	2.33	.98
Preceding Rain (in.)	.49	.04	.04
date began	10 A.M. 11/16/32	10 A.M. 11/16/32	10 A.M. 11/16/32
duration (hours)	17.5	17.5	17.5
Temperature (max. & min.)	57-32	57-33	57-33
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Clay Loam
percent of area	90%	88%	100%
Slope, average (percent)	15-25%	16%	23.4%
maximum	55%	20-25%	35-45%
Cover, type	See note	W. Wheat Fallow Stubble	Same as G.S. 4
height (ft.)	" "	0.5'-1.25'	0.5'-1.25'
date last cultivated	" "	October 1931	October 1931
Soil loss (tons per acre)	.267	.004	.021
Remarks			

	Terrace 16	Terrace 17	Terrace 18
Area (acres)	.82	.92	1.18
Preceding Rain (in.)	.04	.04	.04
date began	10 A.M. 11/16/32	10 A.M. 11/16/32	10 A.M. 11/16/32
duration (hours)	17.5	17.5	17.5
Temperature (max. & min.)	57-33	57-33	57-33
Soil (major type)	Palouse Clay Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	92%	98%	90%
Slope, average (percent)	20.6%	25.2%	20.2%
maximum	35-40%	30-35%	25-30%
Cover, type	W. Wheat Fallow Stubble	Same Terrace 16	Same as Terrace 16
height (ft.)	0.5'-1.25'	0.5'-1.25'	0.5'-1.25'
date last cultivated	October 1931	October 1931	October 1931
Soil loss (tons per acre)	.013	.010	.014
Remarks			

Note G.S. 2 - Cover, 57.8 acres winter wheat stubble
10.4 " " " .00-.25' tall.

Pullman, Washington
November 16, 1932
Sheet 1 of 2



UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

STORM NO. 4

Plot by L.M.N. date 9/18/40 checked by _____ date _____
Computations by M.T. date 2/14/40 checked by M.F.G. date 2/23/40

Cumulative Rainfall
Gage No. 2
Nov. 16, 1932

Date	Time	dt	D	dD	I
11/16/32	10:00A		.00		
		85		.03	.02
	11:25		.03		
		20		.01	.03
	11:45		.04		
		25		.02	.05
	12:10P		.06		
		5		.01	.12
	12:15		.07		
		10		.01	.06
	12:25		.08		
		5		.01	.12
	12:30		.09		
		20		.01	.03
	12:50		.10		
		15		.02	.08
	1:05		.12		
		15		.03	.12
	1:20		.15		
		25		.03	.07
	1:45		.18		
		25		.02	.05
	2:10		.20		
		25		.04	.10
	2:35		.24		
		40		.04	.06
	3:15		.28		
		20		.02	.06
	3:35		.30		
		25		.04	.10
	4:00		.34		
		50		.09	.11
	4:50		.43		
		15		.03	.12
	5:05		.46		
		25		.02	.06
	5:30		.48		
		70		.14	.12
	6:40		.62		
		30		.02	.04
	7:10		.64		
		60		.02	.02
	8:10		.66		
		130		.00	.00
	10:20		.66		
		20		.01	.03
	10:40		.67		
		30		.03	.06
	11:10		.70		
		35		.00	.00
	11:45		.70		
		20		.01	.03
11/17/32	12:06A		.71		
		25		.03	.07
	12:30		.74		
		60		.04	.04

Cumulative Rainfall
Gage No. 2
Nov. 16, 1932

Date	Time	dt	D	dD	I
11/17/32	1:30		.78		
		30		.00	.00
	2:00		.78		
		90		.02	.01
	3:30		.80		

SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Month Jan., 1933

Project Pullman, Washington

Sheet 1 of 9 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Begun (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F)	Temperature Minimum (degrees F)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January									
1/1/33			2			0.63		Snow		34	30	No runoff occurred.							
1/2/33			2			1.16		"		34	28	"	"	"					
1/3/33			2			0.02		"		40	25	"	"	"					Vegetative cover, Jan. 1 -Mar.1
1/4/33	G.S. 2	68.2								44	30	6 AM	12 PM	0.05	2.57	12 PM		0.008	Winter wheat, little cover.
	G.S. 4	2.33								44	30	1:45PM	12 PM	0.21	0.07	9 PM		0.003	W. wheat stubble, melting snow.
	G.S. 5	14.4								44	30	6 AM	12 PM	0.18	0.53	9:30PM		0.017	Winter wheat, little cover.
	G.S. 6	15.2								44	30	12Noon	12 PM	0.09	0.32	12 PM		0.004	Winter wheat stubble.
	Ter.15	0.98	2			0.10		"		44	30	10:30AM	12 PM	0.64	0.07	5 PM		0.006	" " "
	Ter.16	0.82								44	30	12Noon	12 PM	0.34	0.04	2 PM		0.013	Good cover.
	Ter.17	0.92								44	30	12Noon	12 PM	0.02	0.004	2 PM		0.001	Melting snow (thaw).
	Ter.18	1.18								44	30	10 AM	6 PM	0.01	0.001	3 PM		0.000	Ground frozen.
1/5/33	G.S. 2		2	4:30PM	20	0.05	0.10	0.10	0.10	48	40	24 hours		1.64	12.0	4 AM		0.280	Jan.1-4, heavy snow cover.
	G.S. 5									48	40	"	"	0.67	1.50	4:45PM		0.063	Soil frozen solid.
	G.S. 6									48	40	"	"	0.51	0.80	6:30PM		0.020	Chinook Jan. 4-5.
	Ter.15		11	4:30PM	20	0.07	0.10	0.10	0.10	48	40	"	"	0.52	0.03	4:45PM		0.006	Heavy drifts on north and
	Ter.16									48	40	"	"	0.32	0.03	4:30PM		0.013	northeast slopes.
1/4-5/33	Ter.17									48	30	12 PM	9 PM	0.02	0.008	4:30PM		0.001	Runoff from melting snow
1/5/33	Ter.18									48	40	2 PM	7 PM	0.01	0.004	5 PM		0.001	
	G.S. 4									48	40	24 hours		0.80	0.32	5 PM		0.011	
1/6/33	G.S. 2									43	32	24 hours		0.05	0.82	12 PM(5)		0.008	
	G.S. 5									43	32	"	"	0.12	0.13	12 PM(5)		0.005	
	G.S. 6									43	32	"	"	0.07	0.25	12 PM(5)		0.001	
	Ter.15									43	32	11 AM	12 PM	0.06	0.018	7 PM		0.022	
	Ter.16									43	32	No runoff occurred.							
	Ter.17									43	32	"	"	"					
	Ter.18									43	32	"	"	"					
1/5-6/33	G.S. 4									48	32	12 PM	10 PM	0.11	0.03	6 PM		0.002	
1/7/33			2	2 AM	70	0.06	0.06	0.04	0.04	47	34								Jan. 7-8, intermittent rain.
			11	1:30AM	90	0.05	0.06	0.04	0.04	47	34								Runoff from melting snow
1/7-8/33			2	2 PM	1245	0.72	0.12	0.12	0.10	49	34								and rain.
			11	2 PM	1245	0.76	0.12	0.12	0.10	49	34								
1/9/33			2	6:45AM	45	0.07	0.06	0.04	0.04	42	35								Snow and frost gone on upper
			11	6:45AM	45	0.08	0.06	0.04	0.04	42	35								south slopes.
1/6-11/33	G.S. 2									49	28	12 PM	120 hrs	1.56	6.68	8 PM(7)		1.042	Melting snow and rain.
	G.S. 5									49	28	12 PM	120 hrs	1.40	1.30	5:40PM(7)		3.659	
	G.S. 6									49	28	12 PM	120 hrs	1.79	1.62	8 PM(7)		0.058	
1/6-9/33	Ter.15									49	32	12 PM	6 PM	0.54	0.018	12 PM(7)		0.070	
1/7-9/33	Ter.16									49	34	9 AM	9 PM	0.44	0.018	6 PM(7)		0.032	
1/7/33	Ter.17									47	34	8 PM	12 PM	0.05	0.001	9 PM		0.003	
1/7-8/33	Ter.18									49	34	11 AM	8 AM	0.03	0.004	9 PM(7)		0.001	
1/7-10/33	G.S.4									49	32	6 AM	8 PM	1.42	0.20	8 PM(7)		0.078	

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT Pullman, Washington

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F) Maximum	Temperature (degrees F) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu ft sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January (Continued)									
										42	28	12 PM	12 PM	0.05	0.20	2 PM(13)		0.006	Melting snow and ground water.
1/11-13/33	G.S. 2	68.2								42	28	12 PM	12 PM	0.18	0.13	2 PM(13)		0.676	ditto
	G.S. 5	14.4								42	28	12 PM	12 PM	0.03	0.02	2 PM(13)		0.000	"
	G.S. 6	15.2								42	28		No runoff						
	Ter.15	.98								42	28		" "						
	Ter.16	.82								42	28		" "						
	Ter.17	.92								42	28		" "						
	Ter.18	1.18								42	28		" "						
	G.S. 4	2.33																	
1/14/33	G.S. 2		2	7:30AM	210	0.10	0.12	0.08	0.04	38	30	24 hours		0.08	1.57	9:35AM		0.136	Melting snow and ground water.
	G.S. 5									38	30	24 "		0.18	0.16	12 Noon		0.747	ditto
	G.S. 6									38	30		No runoff					0.004	"
	G.S. 4									38	30	8:30AM	5 PM	0.02	0.01	9 AM			
										No runoff occurred on Terraces 15, 16, 17 and 18.									
										38	13	12 PM	12 PM	0.03	0.06	12Noon(16)		0.001	"
1/14-17/33	G.S. 2		2	Snow		0.14		Snow		32	20								
1/21			2	"		0.06		"		36	25								Jan. 21 - Feb. 21
1/24			2	"		0.37		"		36	14								Ground frozen solid. Deep
1/26			2	"		0.04		"		30	20								snow, drifted.
1/29			2	"		0.26		"		32	24								
1/30			2	"		0.72		"		32	17								
1/31										36	12		No runoff						
1/16-31																			
										February									
										22	12		No runoff						
2/6/33			2	Snow		0.04		Snow		18	5		" "						
2/11/33			2	"		0.70		"		27	18		" "						
2/16/33			2	"		0.58		"		32	20		" "						
2/18/33			2	"		0.20		"		43	26		" "						
2/20/33			2	6 PM	110	0.03	0.02	0.02	0.02	38	33	9 AM	12 PM	0.05	0.43	6:30PM		0.015	Feb. 21, melting snow.
2/21/33	G.S. 2									38	33		No runoff						
	G.S. 5									38	33		" "						
	G.S. 6									38	33		" "						
	Ter.15									38	33	24 hours		0.05	0.004	6 PM		0.006	
	Ter.16									38	33		No runoff						
	Ter.17									38	33		" "						
	Ter.18									38	33	8:50AM	12 PM	0.29	0.08	9 PM		0.006	Feb. 22, rain and melting snow.
	G.S. 4																		
2/22/33	G.S. 2		2	4:20AM	340	0.16	0.06	0.06	0.04	42	33	24 hours		0.62	5.77	2:40PM		0.174	ditto
	G.S. 5									42	33	9 AM	12 PM	0.12	0.20	2 PM		0.015	
	G.S. 6									42	33	7 AM	12 PM	0.34	0.58	4 PM		0.040	

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: Feb.-Mar., 1933

Sheet 3 of 9 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F.)	Temperature Minimum (degrees F.)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										February (Continued)									
2/22/33	Ter.15		11	4:20AM	375	0.22	0.12	0.08	0.08	42	33	10 AM	12 PM	0.23	0.038	10:30AM		0.027	
2/21-22/33	Ter.16									42	33	12 PM	12 PM	0.17	0.013	5 PM		0.021	
2/22/33	Ter.17									42	33	10 AM	10 PM	0.03	0.004	5 PM		0.003	
	Ter.18									42	33	---		0.05	---			0.000	Measured in silt box.
2/21-22/33	G.S. 4									42	33	12 PM	12 PM	0.50	0.12	5 PM		0.010	
2/23/33			2		Snow	0.66		Snow		35	30								
2/24/33			2		"	0.03		"		36	22								
2/26/33			2		"	0.22		"		35	30								
2/26/33			2	9:35PM	140	0.14	0.24	0.20	0.16	41	27								
2/26/33			11	9:35PM	140	0.12	0.36	0.28	0.16	41	27								
2/22-26/33	G.S. 2	68.2								42	22	12 PM	12 PM	0.07	0.27	11 PM(28)		0.002	Melting snow and rain.
2/22-26/33	G.S. 5	14.4								42	22	12 PM	12 PM	0.03	0.01	11 PM(28)		0.001	ditto
2/22-26/33	G.S. 6	15.2								42	30	12 PM	8 PM	0.07	0.25	12Noon(23)		0.001	"
2/22-26/33	Ter.15	.98								42	22	12 PM	12 PM	0.14	0.031	2 PM(25)		0.016	"
2/22-26/33	Ter.16	.82								42	22	No runoff.							
2/22-26/33	Ter.17	.92								42	22	"		"					
2/28	Ter.18	1.18								41	27	11 AM	1:30PM	0.01	0.004	12Noon(28)		0.000	"
2/22-26/33	G.S. 4	2.33								41	27	12 PM	12 PM	0.33	0.07	5 PM(25)		0.022	"
										March									
																			March 1 - April 30 All winter wheat making good growth but does not reduce erosion and runoff materially. Winter wheat stubble standing .50' to 1.50' tall offers good resistance to dashing rain or drifting snow. March 1-2, soil frozen.
3/2/33			2	1 PM	170	0.18	0.12	0.08	0.08	43	31								
			11	1 PM	170	0.18	0.12	0.08	0.08	43	31								
			2	8:10PM	60	0.12	0.24	0.20	0.16	43	31								
			11	8:10PM	60	0.12	0.24	0.20	0.16	43	31								
3/6/33			2	11:50PM	30	0.03	0.18	0.08	0.06	42	30								
			11	11:50PM	30	0.01	0.02	0.02	0.02	42	30								
3/7/33			2		Snow	0.25		Snow		36	32								
3/9/33			2		"	0.34		"		38	26								
3/12/33			2	5:30AM	75	0.03	0.04	0.04	0.04	50	36								March 10-12, no frost on south slopes. Drifts remain on north slopes.
			11	5:30AM	75	0.03	0.04	0.04	0.04	50	36								
2/28-3/15/33	G.S.2									52	21	360 hours		2.00	2.40	11:30AM(12)		2.532	Melting snow and rain.
2/28-3/15/33	G.S.5									52	21	360 hours		1.36	0.53	4 PM(2)		3.267	ditto
2/28-3/15/33	G.S.6									52	21	360 hours		2.56	1.23	1:30PM(12)		0.221	"
2/28-3/3/33	Ter.15									44	27	12 PM	6 PM	0.39	0.038	8:40PM(2)		0.050	"
3/1-10/33	Ter.16									44	21	11 AM	7 PM	0.43	0.024	9 PM(2)		0.114	"
3/1-2/33	Ter.17									44	30	11 AM	7 PM	0.03	0.004	5 PM(3)		0.010	"
3/1/33	Ter.18									44	30	9:30AM	6 PM	0.01	0.001	11:30AM		0.002	"
2/28-3/11/33	G.S.4									52	21	12 PM	6 PM	1.63	0.20	9 PM(2)		1.58	"

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Month Mar.-Apr., 19 33

Sheet 4 of 9 sheets

Project Pullman, Washington

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degree F.)	Temperature Minimum (degree F.)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										March (Continued)									
3/16/33	G.S.2		2	8 AM	450	0.07	0.06	0.04	0.04	45	36	24 hours		0.06	0.23	4 PM		0.037	Melting snow and rain.
	G.S.5											24 hours		0.11	0.11	2 PM		0.175	ditto
	G.S.6											24 hours		0.16	0.25	12Noon		0.011	"
									No runoff on Terraces 15, 16, 17, 18 or G.S. 4.										
3/17/33	G.S.2									44	32	24 hours		0.05	0.27	2 PM		0.018	Melting snow and ground water.
	G.S.5									44	32	24 hours		0.05	0.04	12Noon		0.081	ditto
	G.S.6									44	32	24 hours		0.07	0.06	12Noon		0.005	"
3/18/33	G.S.2	68.2	2	5:10PM	110	0.06	0.24	0.16	0.08	45	30	24 hours		0.03	0.13	6 PM		0.011	Drifts melting, ground water.
	G.S.5	14.4								45	30	24 hours		0.03	0.04	5 PM		0.081	ditto
	G.S.6	15.2								45	30	24 hours		0.06	0.06	10 AM		0.006	"
3/19/33	G.S.2									49	31	24 hours		0.03	0.16	12Noon		0.005	
	G.S.5									49	31	24 hours		0.04	0.04	12Noon		0.108	
	G.S.6									49	31	24 hours		0.08	0.06	12Noon		0.008	
3/20/33	G.S.2		2	3 AM	70	0.03	0.12	0.04	0.02	45	37	24 hours		0.03	0.16	1 PM		0.002	Drifts practically gone.
	G.S.5									45	37	24 hours		0.04	0.06	2 PM		0.108	Mostly ground water.
	G.S.6									45	37	24 hours		0.08	0.06	2 PM		0.005	
3/21/33	G.S.2		2	Snow		0.10		Snow		38	26	24 hours		0.02	0.23	10 PM		0.002	Mostly ground water.
	G.S.5									38	26	12 PM(20)	9AM	0.004	0.007	8 AM		0.001	" " "
	G.S.6									38	26	24 hours		0.06	0.06	1 PM		0.001	" " "
3/22/33	G.S.2		2	No record		0.04		No record		42	26	24 hours		0.03	0.13	2 PM		0.004	Rain and ground water.
	G.S.5									42	26	24 hours		0.01	0.007	2 PM		0.003	ditto
	G.S.6									42	26	24 hours		0.06	0.04	2 PM		0.000	"
3/23-31/33	G.S.2									51	28	216 hours		0.21	0.93	5:30PM(30)		0.012	Ground water.
	G.S.5									51	28	216 hours		0.14	0.02	5 PM(30)		0.055	" "
	G.S.6									51	28	216 hours		0.63	0.06	5 PM(30)		0.015	" "
3/25/33			2	No record		0.04		No record		51	31								
3/28/33			2	5:50AM	250	0.18	0.12	0.12	0.08	49	34								
3/29/33			2	12:30AM	220	0.10	0.18	0.10	0.08	45	33								
3/30/33			2	6:50AM	680	0.27	0.36	0.20	0.18	47	35								
										April									
4/1-11/33	G.S.2									52	26	192 hours		0.05	0.08	10AM(1)		0.002	Intermittent runoff.
4/1/33	G.S.5									50	30	24 hours		0.01	0.007	10AM(1)		0.000	Ground water.
4/1-8/33	G.S.6									61	27	192 hours		0.24	0.04	10AM(1)		0.005	" "
									No runoff on Terraces 15, 16, 17, 18 or G.S. 4.										

Form S. C. S.-343

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: Apr. to Sept., 1933

Sheet 5 of 9 sheets

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
							Maximum Intensity								Maximum Rate				
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Cu. ft. sec.	Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										April (Continued)									
4/8/33			2	Snow		0.06		Snow		37	27								May 1 - June 30, 1933
4/10/33			2	Snow		0.02		Snow		44	27								Winter wheat .50'-1.50' tall
4/11/33			2	6:30AM	400	0.10	0.12	0.12	0.10	46	29			No runoff.					(G.S. 2 - G.S.5)
4/17/33			2	7 AM	240	0.10	0.12	0.06	0.04	41	32			" "					Tillage on terraces and
4/28-30/33			2	2 PM	790	0.28	0.12	0.08	0.06	45	35			" "					G.S. 4-6 June 1-10.
										May									
5/2/33			2	4:30AM	300	0.06	0.04	0.04	0.04	44	37			No runoff.					May 1-25, 1933
5/3-4/33			2	10 PM	420	0.05	0.12	0.04	0.02	53	33			" "					Soil wet to moist.
5/7/33			2	8 AM	120	0.04	0.12	0.08	0.04	47	34			" "					
5/14-15/33			2	8 PM	780	0.25	0.24	0.12	0.12	64	40			" "					
5/16/33			2	12:30AM	440	0.03	0.06	0.06	0.04	54	40			" "					May 25 - June 30
5/17/33			2	11:48AM	10	0.06	0.36	0.24	0.12	54	39			" "					Soil moist to dry.
5/18/33			2	12:01AM	520	0.36	0.18	0.14	0.14	50	36			" "					
5/25/33			2	6:30PM	90	0.04	0.08	0.08	0.04	83	48			" "					
										June									
6/7/33			2	2:05PM	5	0.11	1.32	0.44	0.22	62	45			" "					
6/7-8/33			2	6:30PM	1320	0.75	0.36	0.16	0.14	62	44			" "					
6/9/33			2	2:30AM	250	0.07	0.12	0.04	0.02	59	49			" "					
6/28/33			2	8:30AM	110	0.08	0.12	0.08	0.06	60	55			" "					
										July									
7/2/33			2	7:40PM	130	0.07	0.24	0.08	0.08	80	55			" "					July 1 - Sept. 1
7/3/33			2	7 AM	80	0.08	0.20	0.12	0.08	73	55			" "					Soil dry to very dry with some
7/9/33			2	9:30PM	100	0.07	0.24	0.08	0.06	86	52			" "					cracks occurring in untilled
																			soil.
										August									
8/2/33			2	10:30PM	40	0.10	0.24	0.16	0.14	92	44			" "					Harvesting with combine har-
8/3/33			2	2:20PM	140	0.08	0.12	0.10	0.10	75	58			" "					vester in August. Straw
8/4/33			2	8 PM	110	0.16	0.24	0.16	0.12	62	51			" "					scattered with straw spreader.
8/5/33			2	9 AM	110	0.08	0.12	0.08	0.06	63	42			" "					G.S. 5, stubble .50 to 1.50'
8/20/33			2	12Noon	180	0.06	0.04	0.04	0.04	62	49			" "					tall.
										September									
																			Sept. 1 - Oct. 1
9/8/33			2	12:05AM	25	0.04	0.12	0.08	0.08	68	39			" "					Planting of terraces area,
9/9/33			2	3:20PM	290	0.23	0.48	0.16	0.10	68	48			" "					also G.S. 4 and 6.
9/14/33			2	6 AM	200	0.10	0.12	0.08	0.06	64	52			" "					Soil dry to moist.
9/18/33			2	3:10AM	150	0.12	0.18	0.14	0.10	61	46			" "					
9/21-22/33			2	7 PM	390	0.22	0.18	0.12	0.12	64	42			" "					

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: Sept., Oct., Nov., 1933

Sheet 6 of 9 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Begun (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F.) Maximum	Temperature (degrees F.) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										September (Continued)									
9/22/33			2	5:40AM	440	0.17	0.30	0.20	0.18	51	42			No runoff.					
9/23/33			2	3:30PM	460	0.50	0.48	0.28	0.20	57	35			" "					
9/26/33			2	7:30AM	180	0.05	0.04	0.04	0.04	52	34			" "					
9/28/33			2	3:10PM	90	0.06	0.12	0.08	0.06	70	44								
										October									
10/16/33			2	No record		0.04	No record			60	42			No runoff					Oct. 1-16, 1933
10/18/33			2	2:25PM	25	0.09	0.36	0.24	0.18	59	45			" "					Soil moist, winter wheat
10/19/33			2	5:50AM	960	1.30	0.36	0.28	0.24	48	38			" "					growing nicely.
10/22/33			2	4:40AM	340	0.52	0.24	0.20	0.16	57	33			" "					
10/27/33			2	9:40AM	300	0.19	0.24	0.12	0.08	59	44			" "					Oct. 16 - Nov. 1, 1933
10/28-31/33	G.S.2	68.2	2	2:30AM	370	1.21	0.36	0.32	0.32	55	34			" "					Soil moist to very wet.
	G.S.3	14.4								55	34								
10/28-31/33	G.S.6	15.2								55	34	4 PM	12Noon	0.06	0.92	5:50AM(31)			
10/31/33	Ter.15	.98								47	34	8:30AM	8 PM	0.03	0.01	10 AM			
10/29-31/33	Ter.16	.82								56	34	8 AM	4 PM	0.09	0.013	5:40AM(31)			
10/31/33	Ter.17	.92								47	34	—		0.01	--				Measured in silt box.
10/31/33	Ter.18	1.18								47	34	—		0.01	--				" " " "
10/29-31/33	G.S.4	2.33								55	34	—		0.07	—				" " " "
10/29-30/33			2	11:40PM	350	0.35	0.24	0.12	0.10	55	41								
10/30-31/33			2	11 PM	650	0.70	0.24	0.16	0.14	50	34								
										November									
*11/1-3/33	G.S.2		2	10:20PM	1960	1.45	0.36	0.24	0.18	51	31	11 PM	3 PM	0.025	1.24	2:35AM(3)	1.42	0.011	Nov. 1 - Dec. 30, 1933
	G.S.5									51	31			No runoff					Soil very wet to saturated.
	G.S.6									51	31	12 PM	12 PM	0.664	4.50	2:15AM(3)	0.99	0.168	No appreciable frost.
*11/1-3/33	Ter.15		11	10:20PM	2005	1.51	0.48	0.30	0.22	51	31	3:30AM(2)	12PM	0.603	0.19	2:20AM(3)	0.91	0.327	Winter wheat offers very
	Ter.16									51	31	12 PM	12 PM	0.483	0.15	2:20AM(3)	1.03	0.502	little protection against
11/2-3/33	Ter.17									51	38	3:40AM	12Noon	0.441	0.15	2:20AM(3)	1.07	0.596	erosion and runoff.
11/2-3/33	Ter.18									51	38	4:15AM	4:40AM	0.144	0.12	2:23AM(3)	1.37	0.114	
11/2-3/33	G.S.4									51	38	8:10PM	5:10AM	0.387	0.51	2:20AM(3)	1.12	0.666	
11/3-15/33	G.S.2									56	25	12 PM	12 PM	No runoff					
	G.S.5									56	25	12 PM	12 PM	" "					
	G.S.6									56	25	12 PM	12 PM	0.07	0.01	8 AM(4)			Intermittent runoff of very
	Ter.15									56	25			No runoff					low heads.
11/3-4/33	Ter.16									46	26	12 PM	12 PM	0.07	0.004	9 AM(4)			
11/3-15/33	Ter.17									56	25			No runoff					
11/3-15/33	Ter.18									56	25			" "					
11/3-15/33	G.S.4									56	25			" "					

*Storms for which graphs were prepared.

SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Project Pullman, Washington

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Month Nov., Dec., 1933

Sheet 7 of 9 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F) Maximum	Temperature (degrees F) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										November (Continued)									
11/16/33			2	No record		0.05	No record			38	31								
11/19/33			2	5:30AM	300	0.08	0.12	0.08	0.06	47	25								
11/27/33			2	Snow		0.06		Snow		45	38								
11/15-17/33										46	31	12 PM	12Noon	0.01	0.001	8 AM(16)			Intermittent runoff.
							No runoff occurred on G.S. 2, 4, 5, or Terrace 15, 16, 17, 18.												
										December									
12/2-8/33			2	7:20PM	520	0.31	0.12	0.08	0.06	43	31								
12/1-4/33	G.S. 2	68.2								43	29	No runoff.							
	G.S. 5	14.4								43	29	"	"						
12/1-4/33	G.S. 6	15.2								43	29	96 hours		0.03	0.004	Con't			
	Ter. 15	.98								43	29	No runoff							
	Ter. 16	.82								43	29	"	"						
	Ter. 17	.92								43	29	"	"						
	Ter. 18	1.18								43	29	"	"						Vegetative cover for fall and
	G.S. 4	2.33								43	29	"	"						winter 1933.
*12/5-7/33	G.S. 2		2	1 PM	1770	2.18	0.48	0.28	0.20	46	29	9:35PM	9 AM	0.303	4.11	3:40PM(6)	1.88	1.662	G.S. 2, winter wheat stubble.
	G.S. 5									46	29	12 PM	8 AM	0.058	0.04	4 PM(6)	2.12	0.005	G.S. 5, " " "
12/5-6/33	G.S. 6									46	29	7 PM	1:45AM	0.046	5.96	4:48PM(6)	2.13	5.310	G.S. 6, winter wheat.
*12/5-7/33	Ter. 15		11	4:30PM	1555	2.25	0.48	0.28	0.21	46	29	3:30AM(6)	9AM	0.921	0.54	4:43PM(6)	1.33	3.688	Ter. 15 " "
12/6-7/33	Ter. 16									46	30	4 AM	9 AM	0.769	0.39	4:42PM(6)	1.48	2.635	Ter. 16 " "
	Ter. 17									46	30	2:30AM	7 AM	0.696	0.48	4:43PM(6)	1.55	2.235	Ter. 17 " "
12/6/33	Ter. 18									46	30	1:30AM	8 PM	0.675	0.31	4:42PM	1.57	1.080	Ter. 18 " "
12/5-7/33	G.S. 4									46	29	7:40PM	2:15AM	1.279	0.99	4:45PM(6)	.97	4.806	G.S. 4, " "
12/7-9/33	G.S. 2									46	31	9 AM	8 PM	0.016	0.20	11:25AM(7)		0.002	
12/8-9/33	G.S. 5									47	30	8 AM	9 PM	0.126	0.04	8 PM(6)		0.000	
12/7-8/33	G.S. 6									45	31	1:15AM	8 PM	0.021	0.01	2 AM(7)		0.000	
12/7-9/33	Ter. 15									47	30	9 AM	12:20AM	No runoff					
12/7-8/33	Ter. 16									45	31	9 AM	12 PM	"	"				
12/7-9/33	Ter. 17									47	30	7 AM	12:10PM	"	"				
12/6-8/33	Ter. 18									46	30	8 PM	9:15PM	"	"				
12/7-8/33	G.S. 4									45	31	2:15AM	9 PM	"	"				
*12/8-14/33	G.S. 2		2	7:15PM	7795	2.51	0.30	0.26	0.22	49	30	8 PM	12 PM	0.793	3.44	4 AM(9)	1.72	0.662	
12/9-14/33	G.S. 5									49	30	9 PM	12 PM	0.105	0.02	9 PM(9)	2.40	0.004	
12/8-14/33	G.S. 6									49	30	8 PM	12 PM	1.268	1.57	4 AM(9)	1.24	1.728	
*12/8-14/33	Ter. 15		11	7:15PM	7770	2.54	0.18	0.12	0.09	49	30	12:20AM	2:30PM	1.475	0.19	6:25AM(13)	1.05	3.776	
12/8-14/33	Ter. 16									49	30	12 PM	12 Noon	1.380	0.14	6:30AM(13)	1.15	3.571	
12/9-14/33	Ter. 17									49	30	12:10AM	5:30AM	1.330	0.15	6:29AM(13)	1.20	2.426	

*Storms for which graphs were prepared.

Form S. C.S.-

SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month Nov., Dec., 1933

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Sheet 7 of 9 sheets

Project Pullman, Washington

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F.) Maximum	Temperature (degrees F.) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										November (Continued)									
11/16/33			2	No record		0.05	No record			38	31								
11/19/33			2	5:30AM	300	0.08	0.12	0.08	0.06	47	25								
11/27/33			2	Snow		0.06		Snow		45	38								
										46	31	12 PM	12Noon	0.01	0.001	8 AM(16)			Intermittent runoff.
11/15-17/33							No runoff occurred on G.S. 2, 4, 5, or Terrace 15, 16, 17, 18.												
										December									
12/2-3/33			2	7:20PM	520	0.31	0.12	0.08	0.06	43	31								
12/1-4/33	G.S. 2	68.2								43	29	No runoff.							
	G.S. 5	14.4								43	29	"	"						
12/1-4/33	G.S. 6	15.2								43	29	96 hours		0.03	0.004	Con't			
	Ter. 15	.98								43	29	No runoff							
	Ter. 16	.82								43	29	"	"						
	Ter. 17	.92								43	29	"	"						
	Ter. 18	1.18								43	29	"	"						Vegetative cover for fall and winter 1933.
	G.S. 4	2.33								43	29	"	"						
*12/5-7/33	G.S. 2		2	1 PM	1770	2.18	0.48	0.28	0.20	46	29	9:35PM	9 AM	0.303	4.11	3:40PM(6)	1.88	1.662	G.S. 2, winter wheat stubble.
	G.S. 5									46	29	12 PM	6 AM	0.058	0.04	4 PM (6)	2.12	0.005	G.S. 5, " " "
	G.S. 6									46	29	7 PM	1:45AM	0.046	5.96	4:48PM(6)	2.13	5.310	G.S. 6, winter wheat.
12/5-6/33	G.S. 6									46	29	3:30AM(6)	9AM	0.921	0.54	4:43PM(6)	1.33	3.688	Ter. 15 " "
*12/5-7/33	Ter. 15		11	4:30PM	1555	2.25	0.48	0.28	0.21	46	30	4 AM	9 AM	0.769	0.39	4:42PM(6)	1.48	2.635	Ter. 16 " "
12/6-7/33	Ter. 16									46	30	2:30AM	7 AM	0.696	0.48	4:43PM(6)	1.55	2.235	Ter. 17 " "
	Ter. 17									46	30	1:30AM	8 PM	0.675	0.31	4:42PM	1.57	1.080	Ter. 18 " "
12/6/33	Ter. 18									46	29	7:40PM	2:15AM	1.279	0.99	4:45PM(6)	.97	4.906	G.S. 4, " "
12/6-7/33	G.S. 4																		
12/7-8/33	G.S. 2									45	31	9 AM	8 PM	0.016	0.20	11:25AM(7)		0.002	
12/6-9/33	G.S. 5									47	30	8 AM	9 PM	0.126	0.04	8 PM(6)		0.000	
12/7-8/33	G.S. 6									45	31	1:15AM	8 PM	0.021	0.01	2 AM(7)		0.000	
12/7-9/33	Ter. 15									47	30	9 AM	12:20AM	No runoff					
12/7-8/33	Ter. 16									45	31	9 AM	12 PM	"	"				
12/7-9/33	Ter. 17									47	30	7 AM	12:10PM	"	"				
12/6-8/33	Ter. 18									46	30	8 PM	9:15PM	"	"				
12/7-8/33	G.S. 4									45	31	2:15AM	9 PM	"	"				
*12/8-14/33	G.S. 2		2	7:15PM	7795	2.51	0.30	0.26	0.22	49	30	6 PM	12 PM	0.793	3.44	4 AM(9)	1.72	0.662	
12/9-14/33	G.S. 5									49	30	9 PM	12 PM	0.105	0.02	9 PM(9)	2.40	0.004	
12/9-14/33	G.S. 6									49	30	8 PM	12 PM	1.268	1.57	4 AM(9)	1.24	1.728	
*12/8-14/33	Ter. 15		11	7:15PM	7770	2.54	0.18	0.12	0.09	49	30	12:20AM	2:30PM	1.475	0.19	6:25AM(13)	1.05	3.776	
12/8-14/33	Ter. 16									49	30	12 PM	12 Noon	1.380	0.14	6:30AM(13)	1.15	3.571	
12/9-14/33	Ter. 17									49	30	12:10AM	5:30AM	1.330	0.15	6:29AM(13)	1.20	2.426	

*Storms for which graphs were prepared.

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Month Dec., 1933

Sheet 8 of 9 sheets

Project Pullman, Washington

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F.) Maximum	Temperature (degrees F.) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										December (Continued)									
										49	30	9:15PM	7 AM	1.199	0.16	2:10AM(9)	1.33	0.160	
*12/8-14/33	Ter.18									49	30	9 PM	8:30AM	1.434	0.32	3:30AM(9)	1.10	2.242	
*12/8-14/33	G.S.4																		
12/15/33			2	Snow		0.35		Snow		35	31								
12/16/33			2	"		0.15		"		34	19								
12/17/33			2	"		0.15		"		47	21								
										47	19	12 PM	12 PM	0.17	0.71	8 PM(17)		0.063	Melting snow and ground water.
12/14-17/33	G.S.2	68.2								47	19	12 PM	12 PM	0.12	0.20	12 PM(17)		0.001	" " " " "
	G.S.5	14.4								47	19	12 PM	12 PM	0.22	0.30	4:20AM(14)		0.022	" " " " "
	G.S.6	15.2								47	19	2:30PM	12 PM	0.13	0.001	12Noon(14)		0.042	" " " " "
12/14-17/33	Ter.15	.98								47	19	12Noon	12 PM	0.09	0.004	11 PM(17)		0.008	" " " " "
	Ter.16	.82								47	19	5:30AM	12 PM		No runoff			--	
	Ter.17	.92								47	19	7 AM	12 PM	0.01	0.001	12Noon(17)		0.002	" " " " "
	Ter.18	1.18								47	19	8:30AM	12 PM	0.05	0.06	11 PM(17)		0.009	" " " " "
	G.S.4	2.33																	
12/18/33			2	Snow		0.11		Snow		42	26								
12/18-19/33			2	9:04AM	954	0.54	0.12	0.12	0.10	43	26								
12/19-20/33			2	5 PM	780	0.39	0.12	0.08	0.08	51	33								
12/21/33			2	6 AM	60	0.02	0.12	0.08	0.02	58	41								
12/17-21/33	G.S.2									58	21	12 PM	10 PM	0.802	2.16	11:55AM(18)		0.275	Melting snow and rain.
	G.S.5									58	21	12 PM	12Noon	0.319	0.16	4 PM(18)		0.010	" " " "
	G.S.6									58	21	12 PM	8 AM	0.739	0.92	2:25PM(18)		0.091	" " " "
	Ter.15									58	21	12 PM	11:50AM	1.064	0.054	2:30PM(18)		0.467	" " " "
	Ter.16									58	21	12 PM	11:50AM	0.692	0.038	2:40PM(18)		0.266	" " " "
	Ter.17									58	21	12 PM	11:50AM	0.383	0.06	1:40PM(18)		0.218	" " " "
	Ter.18									58	21	12 PM	11:45AM	0.418	0.06	2:25PM(18)		0.226	" " " "
	G.S.4									58	21	12 PM	12Noon	0.659	0.14	2:25PM(18)		0.282	" " " "
12/21-23/33	G.S.2		2	11:30AM	2535	0.86	0.54	0.36	0.16	58	35	10 AM	9 AM	0.727	8.12	12:05PM(22)		0.837	Runoff caused by rain and snow.
	G.S.5									58	35	12Noon	12 PM	0.320	0.39	12:15PM(22)		0.004	
	G.S.6									58	35	8 AM	12Noon	0.756	4.31	5:35AM(23)		0.533	
	Ter.15		11	11:45AM	2520	1.09	0.60	0.24	0.18	58	35	11:50AM	9 AM	1.196	0.73	4:07PM(22)		4.505	
	Ter.16									58	35	11:50AM	12Noon	0.911	0.50	4:07PM(22)		3.689	
	Ter.17									58	35	11:50AM	8 AM	0.990	0.58	4:02PM(22)		3.002	
	Ter.18									58	35	11:45AM	8 AM	0.790	0.31	4 PM(22)		1.354	
	G.S.4									58	35	12Noon	8:10AM	1.082	1.11	4:05PM(22)		2.595	
12/24/33			2	Snow		0.25		Snow		31	27								
12/25/33			2	"		0.21		"		31	23								
12/27/33			2	9 AM	60	0.04	0.12	0.08	0.04	32	20								
12/28/33			2	1:15AM	85	0.04	0.04	0.04	0.04	44	20								
12/30/33			2	12:20PM	250	0.07	0.12	0.04	0.03	44	40								

*Storms for which graphs were prepared.

SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

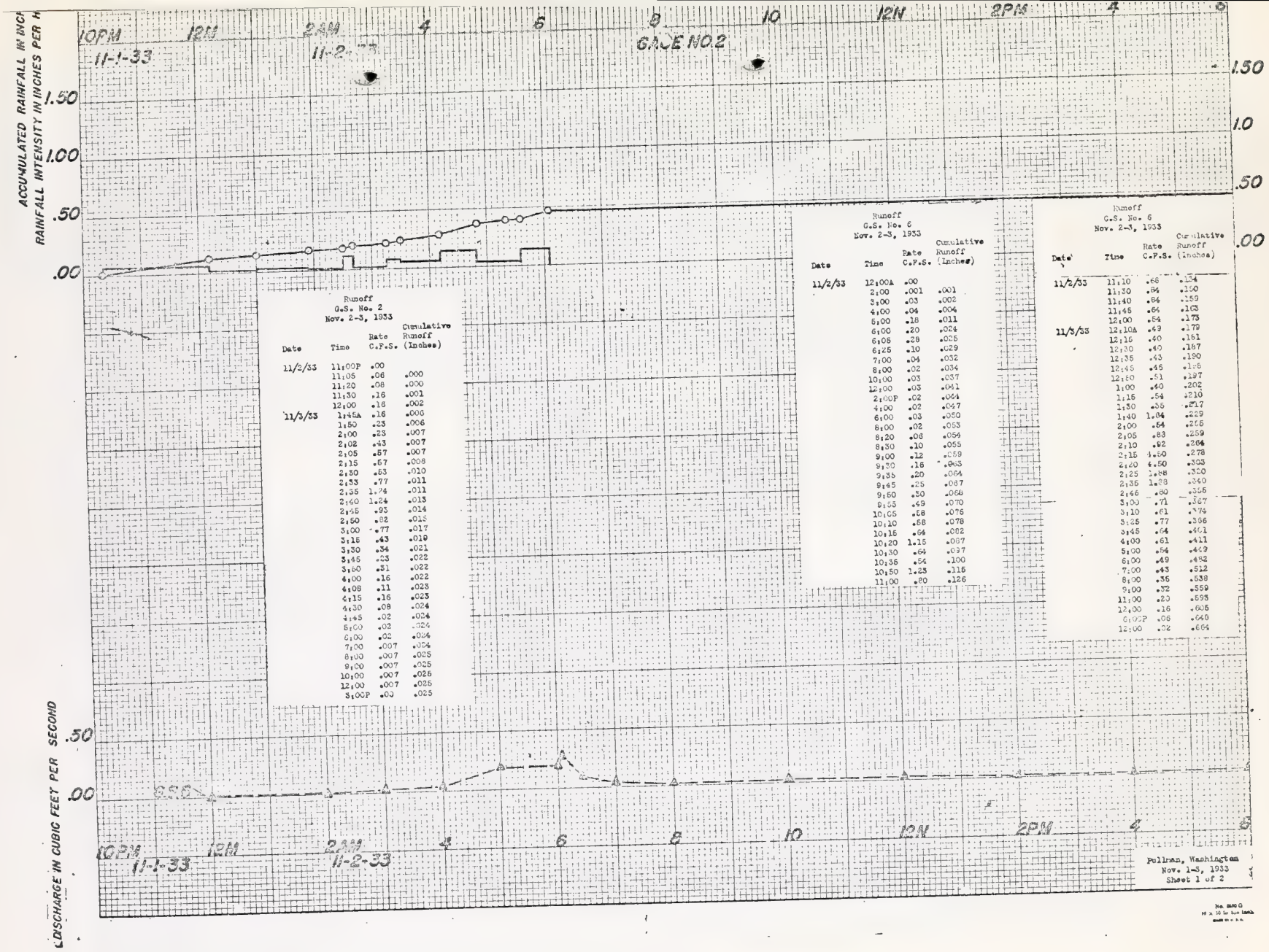
RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Month Dec., 1933

Sheet 9 of 9 sheets

Project Pullman, Washington

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F.) Maximum	Temperature (degrees F.) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu ft sec	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										December (Continued)									
12/23-30/33	G.S.2	68.2								48	20	9 AM	12 PM	0.843	0.77	3 AM(29)		0.033	Melting snow, rain and ground water.
	G.S.5	14.4								48	20	12 PM	12 PM	0.135	0.04	12Noon(29)		0.004	ditto
	G.S.6	15.2								48	20	12Noon	12 PM	0.502	0.04	12Noon(29)		0.012	"
	Ter.15	.98								48	20	9 AM	12 PM	0.522	0.01	2 PM(29)		0.038	"
	Ter.16	.82								48	20	12Noon	12 PM	0.361	0.01	12 PM(28)		0.032	"
	Ter.17	.92								48	20	8 AM	12 PM	0.028	0.01	2 PM(29)		0.000	"
	Ter.18	1.18								48	20	8 AM	12 PM	0.065	0.01	2 AM(29)		0.004	"
	G.S.4	2.33								48	20	8 AM	12 PM	0.484	0.04	2:30AM(29)		0.043	"



Runoff
G.S. No. 2
Nov. 2-3, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
11/2/33	11:00P	.00	
	11:05	.06	.000
	11:20	.08	.000
	11:30	.16	.001
	12:00	.16	.002
11/3/33	1:45A	.16	.006
	1:50	.23	.006
	2:00	.23	.007
	2:02	.43	.007
	2:05	.57	.007
	2:15	.67	.008
	2:30	.63	.010
	2:33	.77	.011
	2:35	1.24	.011
	2:40	1.24	.013
	2:45	.93	.014
	2:50	.82	.015
	3:00	.77	.017
	3:15	.43	.019
	3:30	.34	.021
	3:45	.23	.022
	3:50	.31	.022
	4:00	.16	.022
	4:08	.11	.023
	4:15	.16	.023
	4:30	.08	.024
	4:45	.02	.024
	5:00	.02	.024
	6:00	.02	.024
	7:00	.007	.024
	8:00	.007	.025
	9:00	.007	.025
	10:00	.007	.026
	12:00	.007	.026
	3:00P	.00	.025

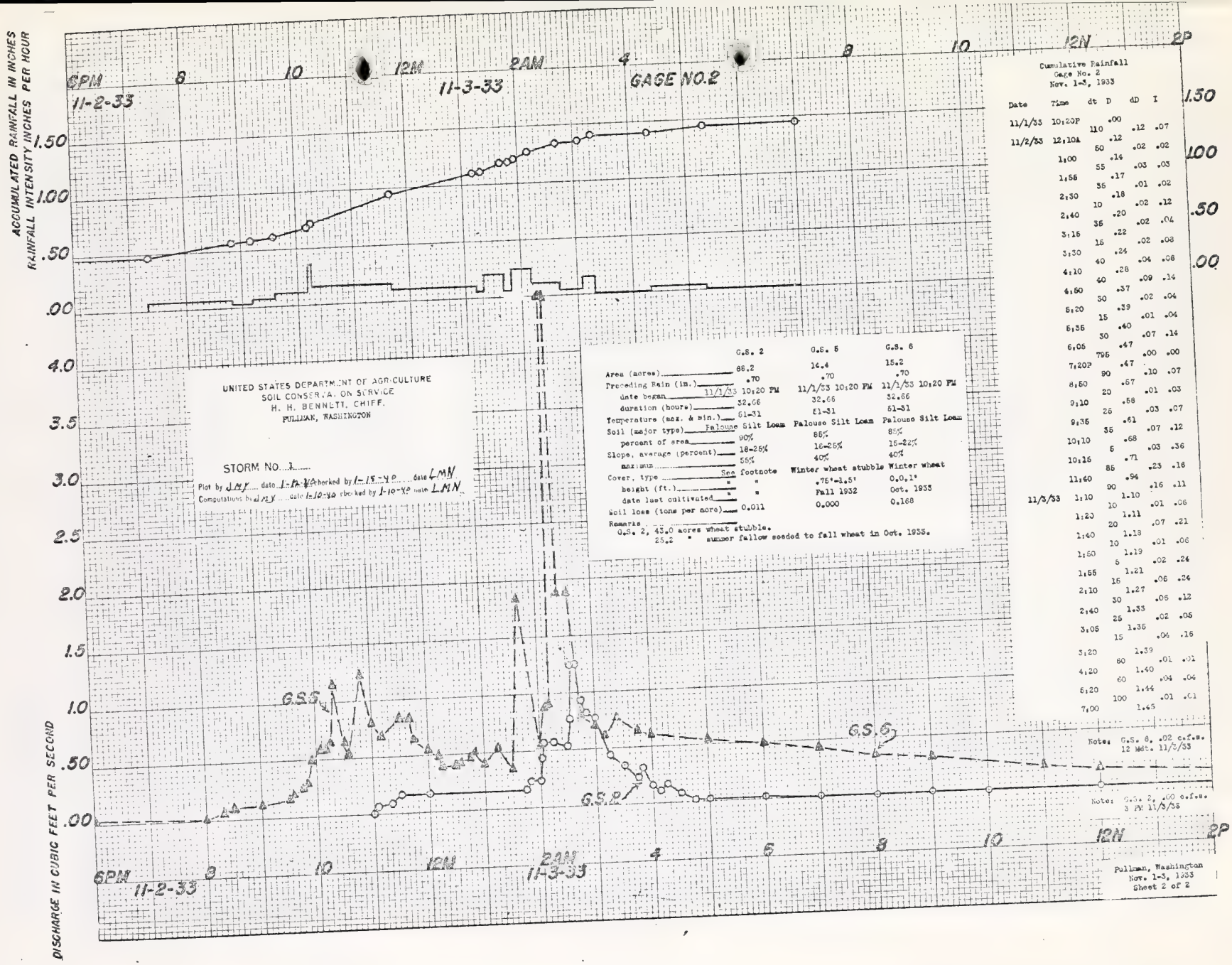
Runoff
G.S. No. 6
Nov. 2-3, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
11/2/33	12:00A	.00	
	2:00	.001	.001
	3:00	.03	.002
	4:00	.04	.004
	5:00	.18	.011
	6:00	.20	.024
	6:05	.28	.025
	6:25	.10	.029
	7:00	.04	.032
	8:00	.02	.034
	10:00	.03	.037
	12:00	.03	.041
	2:00P	.02	.044
	4:00	.02	.047
	6:00	.03	.050
	8:00	.02	.053
	8:20	.08	.054
	8:30	.10	.055
	9:00	.12	.059
	9:30	.16	.063
	9:35	.20	.064
	9:45	.25	.067
	9:50	.30	.068
	9:55	.49	.070
	10:05	.58	.076
	10:10	.68	.078
	10:15	.64	.082
	10:20	1.15	.087
	10:30	.64	.097
	10:35	.54	.100
	10:50	1.23	.115
	11:00	.80	.126

Runoff
G.S. No. 6
Nov. 2-3, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
11/2/33	11:10	.66	.134
	11:30	.84	.150
	11:40	.84	.159
	11:45	.64	.163
	12:00	.54	.173
11/3/33	12:10A	.49	.179
	12:15	.40	.181
	12:30	.40	.187
	12:35	.43	.190
	12:45	.46	.196
	12:50	.51	.197
	1:00	.40	.202
	1:15	.54	.210
	1:30	.55	.217
	1:40	1.04	.229
	2:00	.64	.255
	2:05	.83	.259
	2:10	.92	.264
	2:15	1.50	.278
	2:20	4.50	.303
	2:25	1.88	.320
	2:35	1.28	.340
	2:46	.80	.356
	3:00	.71	.367
	3:10	.61	.374
	3:25	.77	.386
	3:45	.64	.401
	4:00	.61	.411
	5:00	.54	.449
	6:00	.49	.482
	7:00	.43	.512
	8:00	.36	.538
	9:00	.32	.559
	11:00	.20	.593
	12:00	.16	.606
	6:00P	.06	.640
	12:00	.02	.664

Pullman, Washington
Nov. 1-3, 1933
Sheet 1 of 2



UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

STORM NO. 1

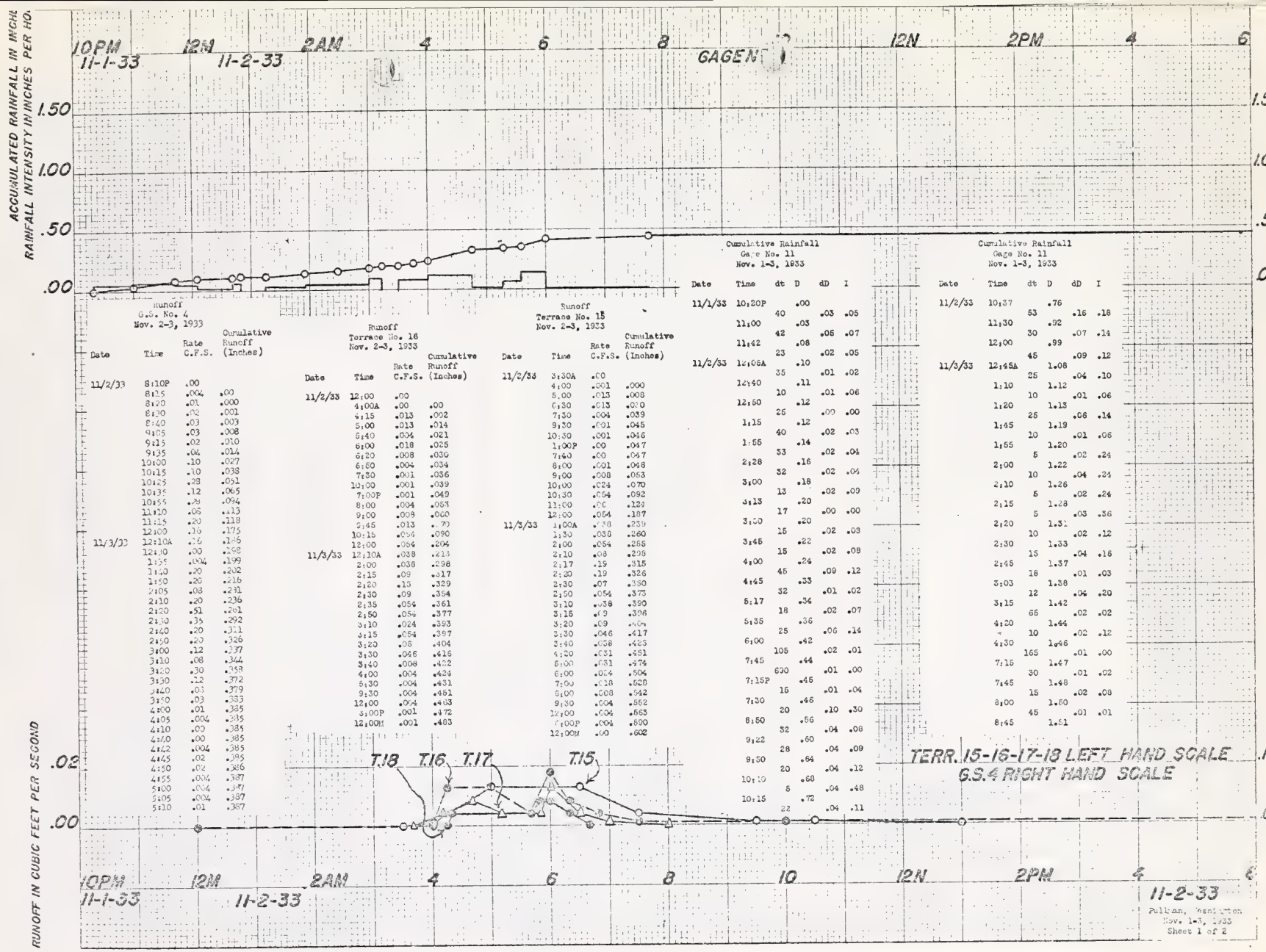
Plot by JMY date 1-14-40 checked by 1-15-40 date LMN
Computations by JMY date 1-10-40 checked by 1-10-40 date LMN

	G.S. 2	G.S. 5	G.S. 6
Area (acres)	88.2	14.4	15.2
Preceding Rain (in.)	.70	.70	.70
date began 11/1/33	10:20 PM	11/1/33 10:20 PM	11/1/33 10:20 PM
duration (hours)	32.66	32.66	32.66
Temperature (max. & min.)	61-31	61-31	61-31
Soil (major type) Palouse	Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%	85%
Slope, average (percent)	18-25%	16-25%	15-22%
maximum	55%	40%	40%
Cover, type	See footnote	Winter wheat stubble	Winter wheat
height (ft.)	"	.75'-1.5'	0.0.1'
date last cultivated	"	Fall 1932	Oct. 1933
Soil loss (tons per acre)	0.011	0.000	0.168

Remarks
G.S. 2, 43.0 acres wheat stubble.
25.2 " summer fallow seeded to fall wheat in Oct. 1933.

Cumulative Rainfall
Gage No. 2
Nov. 1-3, 1933

Date	Time	dt	D	dD	I
11/1/33	10:20P		.00		
		110		.12	.07
11/2/33	12:10A		.12		
		50		.02	.02
	1:00		.14		
		55		.03	.03
	1:55		.17		
		35		.01	.02
	2:30		.18		
		10		.02	.12
	2:40		.20		
		35		.02	.04
	3:15		.22		
		15		.02	.08
	3:30		.24		
		40		.04	.06
	4:10		.28		
		40		.09	.14
	4:50		.37		
		30		.02	.04
	5:20		.39		
		15		.01	.04
	5:35		.40		
		30		.07	.14
	6:05		.47		
		795		.00	.00
	7:20P		.47		
		90		.10	.07
	8:50		.57		
		20		.01	.03
	9:10		.58		
		25		.03	.07
	9:35		.61		
		35		.07	.12
	10:10		.68		
		5		.03	.36
	10:15		.71		
		85		.23	.18
	11:40		.94		
		90		.16	.11
11/3/33	1:10		1.10		
		10		.01	.06
	1:20		1.11		
		20		.07	.21
	1:40		1.18		
		10		.01	.06
	1:50		1.19		
		5		.02	.24
	1:55		1.21		
		15		.06	.24
	2:10		1.27		
		30		.06	.12
	2:40		1.33		
		25		.02	.05
	3:05		1.35		
		15		.04	.16
	3:20		1.39		
		60		.01	.01
	4:20		1.40		
		60		.04	.04
	5:20		1.44		
		100		.01	.01
	7:00		1.45		



Runoff
G.S. No. 4
Nov. 2-3, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
11/2/33	8:10P	.00	
	8:15	.004	.00
	8:20	.01	.000
	8:30	.02	.001
	8:40	.03	.003
	9:05	.03	.008
	9:15	.02	.010
	9:35	.04	.014
	10:00	.10	.027
	10:15	.10	.038
	10:25	.28	.051
	10:35	.12	.065
	10:55	.28	.094
	11:10	.06	.113
	11:15	.20	.118
	12:00	.16	.175
11/3/33	12:10A	.26	.186
	12:30	.00	.198
	1:55	.004	.199
	1:40	.20	.202
	1:50	.20	.216
	2:05	.08	.231
	2:10	.20	.236
	2:20	.51	.261
	2:30	.35	.292
	2:40	.20	.311
	2:50	.20	.326
	3:00	.12	.337
	3:10	.08	.344
	3:20	.30	.358
	3:30	.12	.372
	3:40	.03	.379
	3:50	.03	.383
	4:00	.01	.385
	4:05	.004	.385
	4:10	.00	.385
	4:20	.00	.385
	4:42	.004	.385
	4:45	.02	.385
	4:50	.02	.386
	4:55	.004	.387
	5:00	.004	.387
	5:05	.004	.387
	5:10	.01	.387

Runoff
Terrace No. 16
Nov. 2-3, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
11/2/33	12:00	.00	
	4:00A	.00	.00
	4:15	.013	.002
	5:00	.013	.014
	5:40	.004	.021
	6:00	.018	.025
	6:20	.008	.030
	6:50	.004	.034
	7:30	.001	.036
	10:00	.001	.039
	7:00P	.001	.049
	8:00	.004	.053
	9:00	.008	.060
	9:45	.013	.070
	10:15	.004	.080
	12:00	.004	.204
11/3/33	12:10A	.038	.213
	2:00	.038	.298
	2:15	.09	.317
	2:20	.15	.329
	2:30	.09	.354
	2:35	.054	.361
	2:50	.054	.377
	3:10	.024	.393
	3:15	.054	.397
	3:20	.08	.404
	3:30	.046	.416
	3:40	.008	.422
	4:00	.004	.424
	5:30	.004	.431
	9:30	.004	.461
	12:00	.004	.463
	3:00P	.001	.472
	12:00M	.001	.483

Runoff
Terrace No. 15
Nov. 2-3, 1933

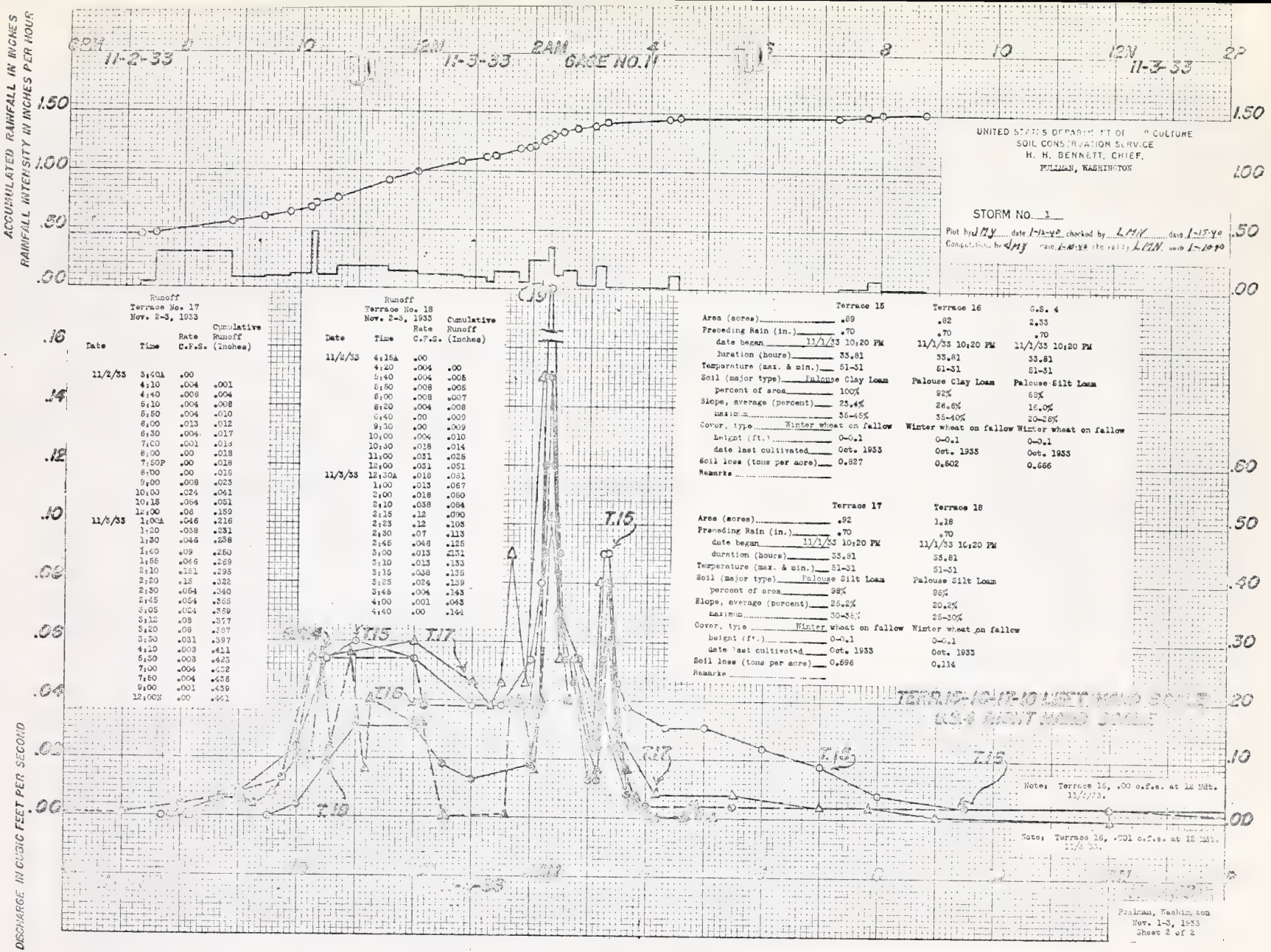
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
11/2/33	3:30A	.00	
	4:00	.001	.000
	5:00	.013	.008
	6:30	.013	.030
	7:30	.004	.039
	9:30	.001	.045
	10:30	.001	.046
	1:00P	.00	.047
	7:40	.00	.047
	8:00	.001	.048
	9:00	.008	.053
	10:00	.024	.070
	10:30	.054	.092
	11:00	.00	.124
	12:00	.054	.187
11/3/33	1:00A	.038	.239
	1:30	.038	.260
	2:00	.054	.266
	2:10	.08	.298
	2:17	.19	.315
	2:20	.19	.326
	2:30	.07	.350
	2:50	.054	.373
	3:10	.038	.390
	3:15	.09	.396
	3:20	.09	.404
	3:30	.046	.417
	3:40	.038	.425
	4:20	.031	.451
	5:00	.031	.474
	6:00	.024	.504
	7:00	.018	.528
	8:00	.008	.542
	9:30	.004	.562
	12:00	.004	.563
	7:00P	.004	.590
	12:00M	.00	.602

Cumulative Rainfall
Gage No. 11
Nov. 1-3, 1933

Date	Time	dt	D	dD	I
11/1/33	10:20P		.00		
	11:00	40	.03	.03	.05
	11:42	42	.08	.05	.07
11/2/33	12:06A	23	.10	.02	.05
	12:40	35	.11	.01	.02
	12:50	10	.12	.01	.06
	1:15	26	.12	.00	.00
	1:55	40	.14	.02	.03
	2:28	33	.16	.02	.04
	3:00	32	.18	.02	.04
	3:13	13	.20	.02	.09
	3:30	17	.20	.00	.00
	3:45	15	.22	.02	.08
	4:00	15	.24	.02	.08
	4:45	45	.33	.09	.12
	5:17	32	.34	.01	.02
	5:35	18	.36	.02	.07
	6:00	25	.42	.06	.14
	7:45	105	.44	.02	.01
	7:15P	690	.45	.01	.00
	7:30	15	.46	.01	.04
	8:50	20	.56	.10	.30
	9:22	32	.60	.04	.08
	9:50	28	.64	.04	.09
	10:10	20	.68	.04	.12
	10:15	5	.72	.04	.48
		22		.04	.11

Cumulative Rainfall
Gage No. 11
Nov. 1-3, 1933

Date	Time	dt	D	dD	I
11/2/33	10:37		.76		
	11:30	53	.92	.16	.18
	12:00	30	.99	.07	.14
11/3/33	12:45A	45	1.08	.09	.12
	1:10	25	1.12	.04	.10
	1:20	10	1.13	.01	.06
	1:45	25	1.19	.06	.14
	1:55	10	1.20	.01	.06
	2:00	5	1.22	.02	.24
	2:10	10	1.26	.04	.24
	2:15	5	1.28	.02	.24
	2:20	5	1.31	.03	.36
	2:30	10	1.33	.02	.12
	2:45	15	1.37	.04	.16
	3:03	18	1.38	.01	.03
	3:15	12	1.42	.04	.20
	4:20	65	1.44	.02	.02
	4:30	10	1.46	.02	.12
	7:15	165	1.47	.01	.00
	7:45	30	1.48	.01	.02
	8:00	15	1.50	.02	.08
	8:45	45	1.51	.01	.01



Runoff
Terrace No. 17
Nov. 2-3, 1933

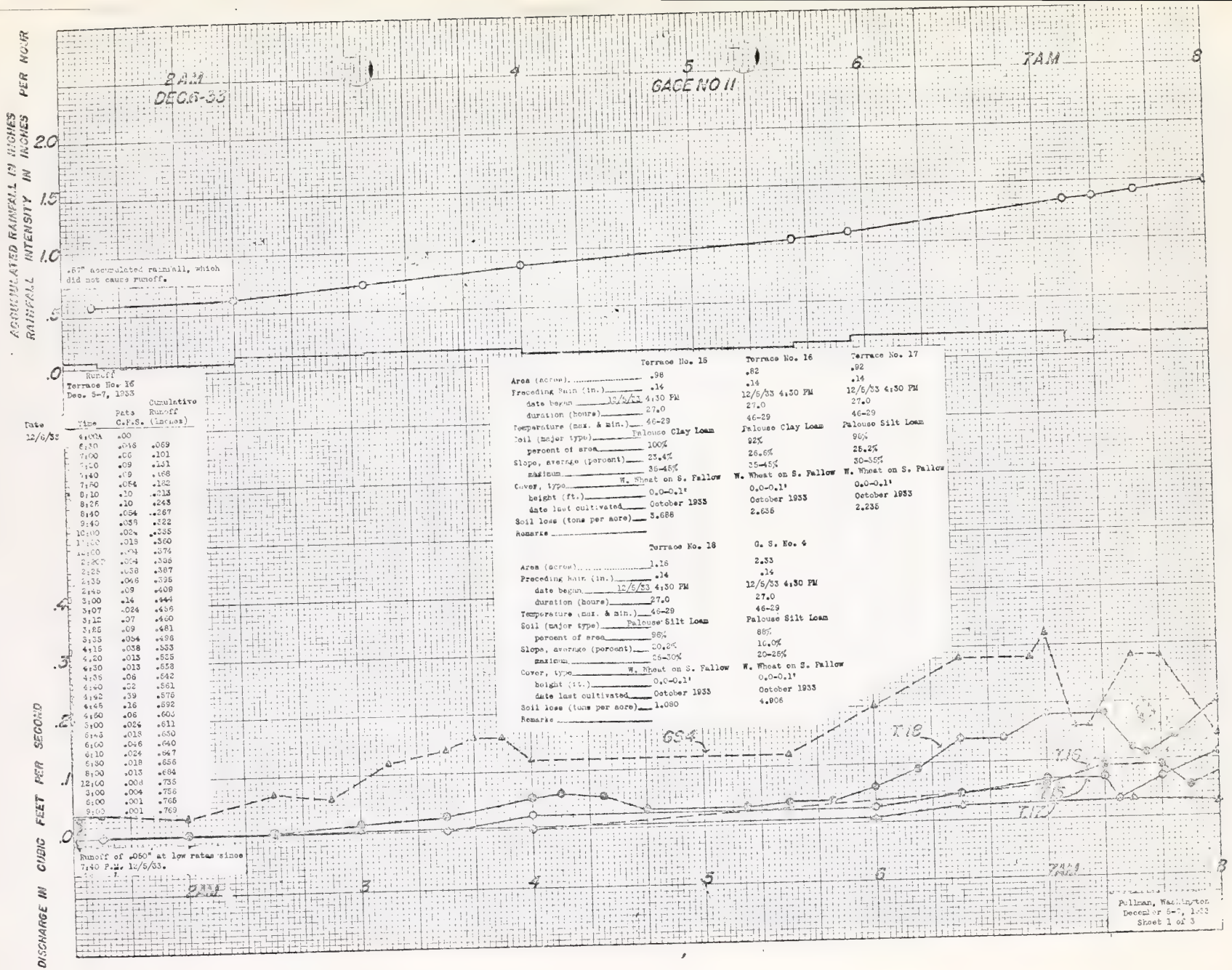
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
11/2/33	3:40A	.00	
	4:10	.004	.001
	4:40	.008	.004
	5:10	.004	.008
	5:50	.004	.010
	6:00	.013	.012
	6:30	.004	.017
	7:00	.001	.018
	8:00	.00	.018
	7:50P	.00	.018
	8:00	.00	.018
	9:00	.008	.023
	10:00	.024	.041
	10:15	.064	.051
	12:00	.06	.159
11/3/33	1:00A	.046	.216
	1:20	.038	.231
	1:30	.046	.238
	1:40	.09	.250
	1:55	.046	.269
	2:10	.151	.295
	2:20	.15	.322
	2:30	.064	.340
	2:45	.054	.355
	3:05	.024	.359
	3:12	.08	.377
	3:20	.08	.387
	3:50	.031	.397
	4:10	.003	.411
	5:30	.003	.423
	7:00	.004	.432
	7:50	.004	.436
	9:00	.001	.439
	12:00N	.00	.441

Runoff
Terrace No. 18
Nov. 2-3, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
11/2/33	4:15A	.00	
	4:20	.004	.00
	5:40	.004	.005
	5:50	.008	.005
	6:00	.008	.007
	8:20	.004	.008
	6:40	.00	.009
	9:30	.00	.009
	10:00	.004	.010
	10:30	.018	.014
	11:00	.031	.025
	12:00	.031	.051
11/3/33	12:30A	.018	.061
	1:00	.013	.067
	2:00	.018	.080
	2:10	.038	.084
	2:15	.12	.090
	2:23	.12	.103
	2:30	.07	.113
	2:45	.046	.125
	3:00	.013	.131
	3:10	.013	.133
	3:15	.038	.135
	3:25	.024	.139
	3:45	.004	.143
	4:00	.001	.143
	4:40	.00	.144

	Terrace 15	Terrace 16	G.S. 4
Area (acres)	.89	.82	2.33
Preceding Rain (in.)	.70	.70	.70
date began	11/1/33 10:20 PM	11/1/33 10:20 PM	11/1/33 10:20 PM
duration (hours)	33.81	33.81	33.81
Temperature (max. & min.)	51-31	51-31	51-31
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam	Palouse Silt Loam
percent of area	100%	92%	88%
Slope, average (percent)	23.4%	26.6%	16.0%
maximum	35-45%	35-40%	20-28%
Cover, type	Winter wheat on fallow	Winter wheat on fallow	Winter wheat on fallow
height (ft.)	0-0.1	0-0.1	0-0.1
date last cultivated	Oct. 1933	Oct. 1933	Oct. 1933
Soil loss (tons per acre)	0.827	0.502	0.666
Remarks			

	Terrace 17	Terrace 18
Area (acres)	.92	1.18
Preceding Rain (in.)	.70	.70
date began	11/1/33 10:20 PM	11/1/33 10:20 PM
duration (hours)	33.81	33.81
Temperature (max. & min.)	51-31	51-31
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	98%	96%
Slope, average (percent)	25.2%	20.2%
maximum	30-35%	25-30%
Cover, type	Winter wheat on fallow	Winter wheat on fallow
height (ft.)	0-0.1	0-0.1
date last cultivated	Oct. 1933	Oct. 1933
Soil loss (tons per acre)	0.596	0.114
Remarks		

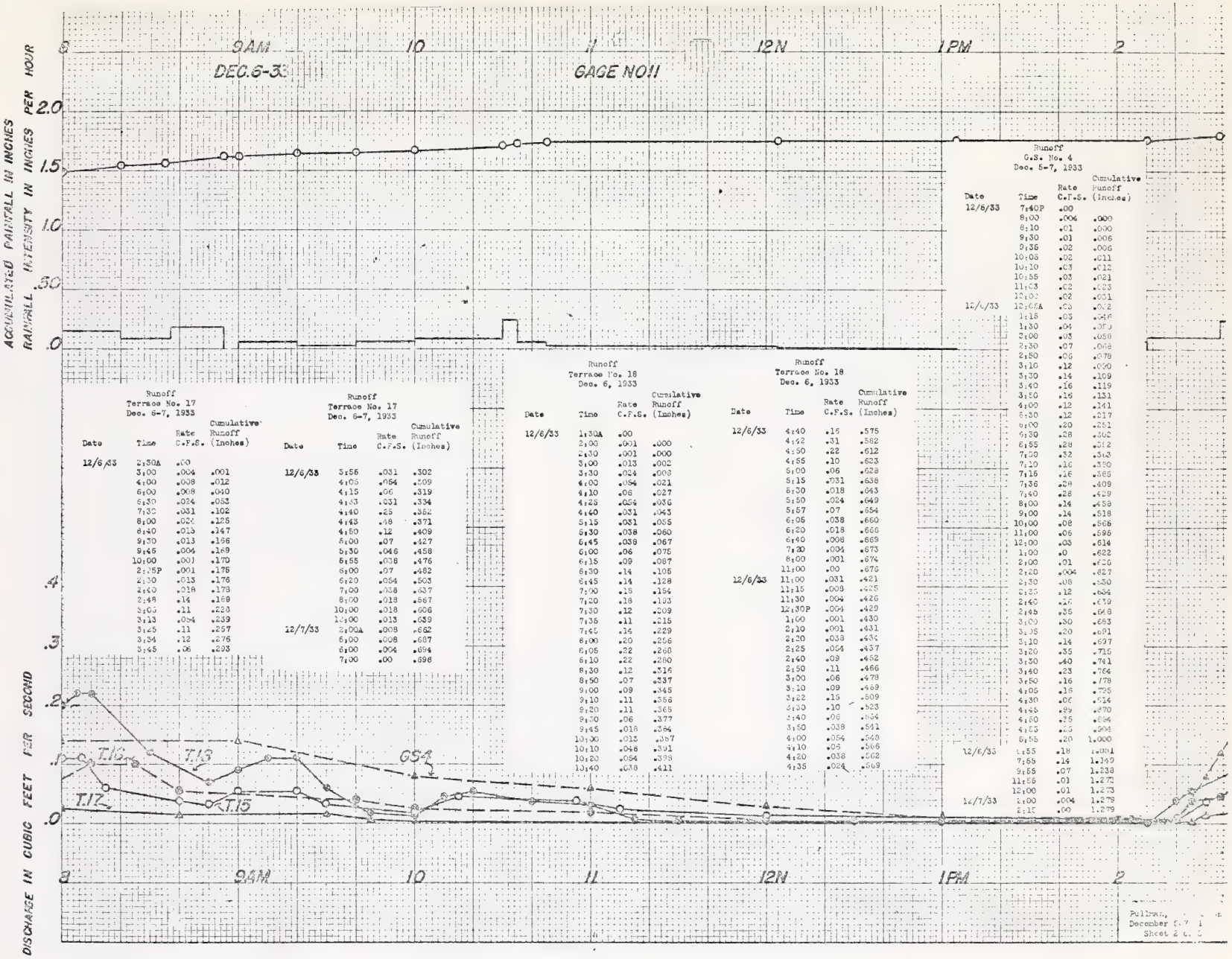


Runoff
Terrace No. 16
Dec. 5-7, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (inches)
12/6/33	4:00A	.00	
	6:30	.016	.069
	7:00	.06	.101
	7:20	.09	.131
	7:40	.09	.168
	7:50	.054	.182
	8:10	.10	.213
	8:25	.10	.243
	8:40	.054	.267
	9:40	.039	.322
	10:00	.024	.335
	1:00	.018	.360
	1:30	.024	.374
	2:00	.024	.385
	2:25	.038	.387
	2:35	.046	.395
	2:45	.09	.408
	3:00	.14	.446
	3:07	.024	.456
	3:12	.07	.460
	3:25	.09	.481
	3:35	.054	.496
	4:15	.038	.533
	4:20	.013	.535
	4:30	.013	.538
	4:35	.06	.542
	4:40	.02	.561
	4:42	.39	.576
	4:45	.16	.592
	4:50	.06	.600
	5:00	.024	.611
	5:45	.018	.630
	6:00	.046	.640
	6:10	.024	.647
	6:30	.018	.656
	8:00	.013	.684
	12:00	.004	.735
	3:00	.004	.756
	6:00	.001	.765
	9:00	.001	.769

	Terrace No. 15	Terrace No. 16	Terrace No. 17
Area (acres)	.98	.82	.92
Preceding Rain (in.)	.14	.14	.14
date begun	12/5/33 4:30 PM	12/5/33 4:30 PM	12/5/33 4:30 PM
duration (hours)	27.0	27.0	27.0
Temperature (max. & min.)	46-29	46-29	46-29
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam	Palouse Silt Loam
percent of area	100%	92%	90%
Slope, average (percent)	23.4%	26.6%	25.2%
maximum	35-45%	35-45%	30-35%
Cover, type	W. Wheat on S. Fallow	W. Wheat on S. Fallow	W. Wheat on S. Fallow
height (ft.)	0.0-0.1'	0.0-0.1'	0.0-0.1'
date last cultivated	October 1933	October 1933	October 1933
Soil loss (tons per acre)	3.688	2.636	2.236
Remarks			

	Terrace No. 18	G. S. No. 4
Area (acres)	1.18	2.33
Preceding Rain (in.)	.14	.14
date begun	12/5/33 4:30 PM	12/5/33 4:30 PM
duration (hours)	27.0	27.0
Temperature (max. & min.)	46-29	46-29
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	98%	88%
Slope, average (percent)	20.2%	16.0%
maximum	25-30%	20-25%
Cover, type	W. Wheat on S. Fallow	W. Wheat on S. Fallow
height (ft.)	0.0-0.1'	0.0-0.1'
date last cultivated	October 1933	October 1933
Soil loss (tons per acre)	1.080	4.906
Remarks		



Runoff
Terrace No. 17
Dec. 6-7, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	2:30A	.00	
	3:00	.004	.001
	4:00	.008	.012
	5:00	.008	.040
	6:30	.024	.053
	7:30	.031	.102
	8:00	.022	.125
	8:40	.013	.147
	9:30	.013	.166
	9:45	.004	.169
	10:00	.001	.170
	2:25P	.001	.175
	2:30	.013	.176
	2:40	.018	.178
	2:48	.14	.189
	3:05	.11	.220
	3:13	.054	.239
	3:25	.11	.257
	3:34	.12	.276
	3:45	.06	.293

Runoff
Terrace No. 17
Dec. 6-7, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	5:56	.031	.302
	4:05	.054	.309
	4:15	.06	.319
	4:23	.031	.334
	4:40	.25	.352
	4:43	.48	.371
	4:50	.12	.409
	5:00	.07	.427
	5:30	.046	.458
	5:55	.038	.476
	6:00	.07	.482
	6:20	.054	.503
	7:00	.038	.537
	8:00	.018	.567
	10:00	.018	.606
	12:00	.013	.639
12/7/33	2:00A	.008	.662
	5:00	.008	.687
	8:00	.004	.694
	7:00	.00	.698

Runoff
Terrace No. 18
Dec. 6, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	1:30A	.00	
	2:00	.001	.000
	2:30	.001	.000
	3:00	.013	.002
	3:30	.024	.003
	4:00	.054	.021
	4:10	.06	.027
	4:25	.054	.036
	4:40	.031	.043
	5:15	.031	.055
	5:30	.038	.060
	5:45	.038	.067
	6:00	.06	.075
	6:15	.09	.087
	6:30	.14	.105
	6:45	.14	.128
	7:00	.15	.154
	7:20	.18	.183
	7:30	.12	.209
	7:35	.11	.215
	7:45	.14	.229
	8:00	.20	.256
	8:05	.22	.260
	8:10	.22	.260
	8:30	.12	.316
	8:50	.07	.337
	9:00	.09	.345
	9:10	.11	.356
	9:20	.11	.365
	9:30	.06	.377
	9:45	.018	.384
	10:00	.013	.387
	10:10	.046	.391
	10:20	.054	.398
	10:40	.038	.411

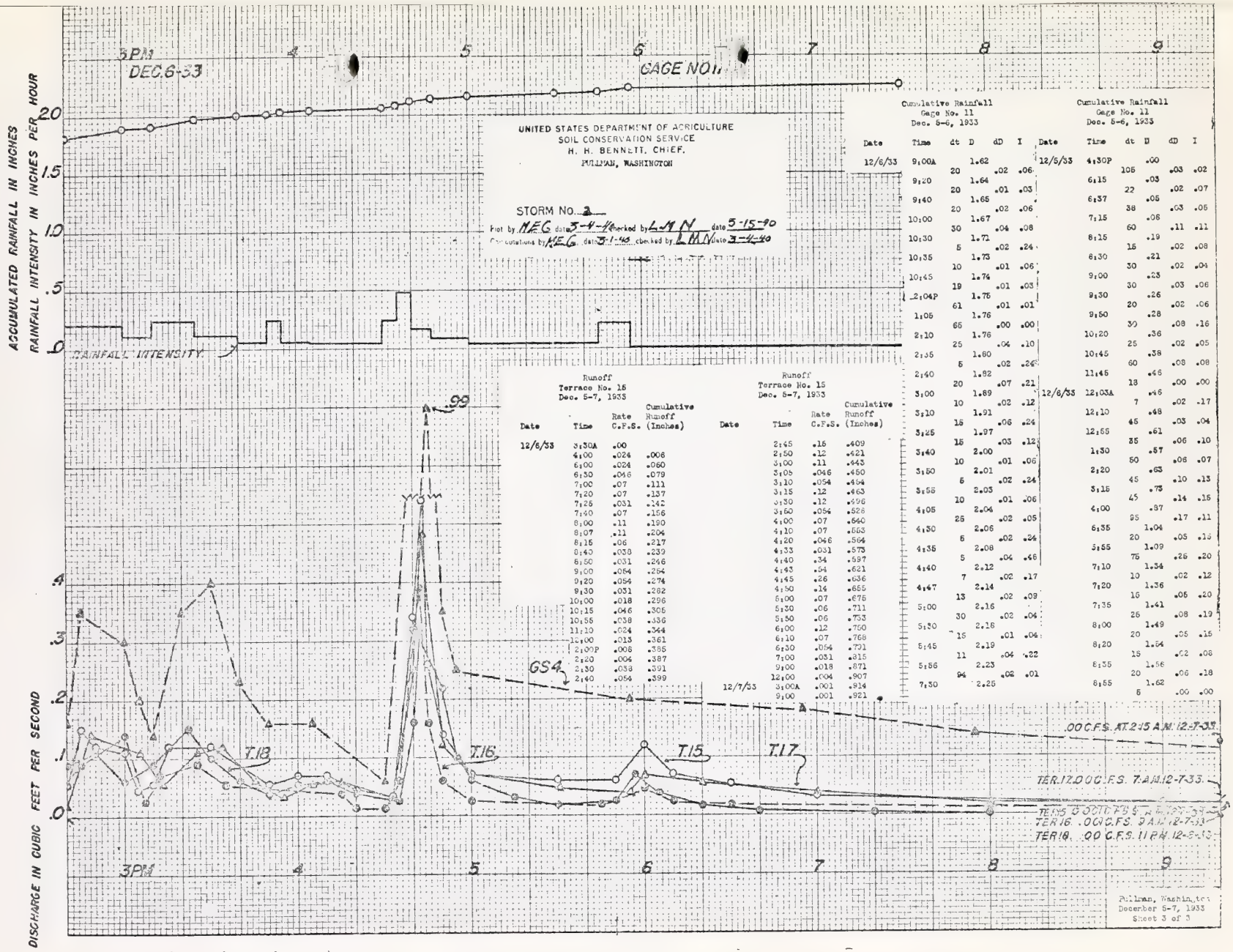
Runoff
Terrace No. 18
Dec. 6, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	4:40	.16	.575
	4:42	.31	.582
	4:50	.22	.612
	4:55	.10	.623
	5:00	.06	.628
	5:15	.031	.638
	5:30	.018	.643
	5:50	.024	.649
	5:57	.07	.654
	6:05	.038	.660
	6:20	.018	.666
	6:40	.008	.669
	7:20	.004	.673
	8:00	.001	.674
	11:00	.00	.676
12/6/33	11:00	.031	.421
	11:15	.008	.425
	11:30	.004	.426
	12:30P	.004	.429
	1:00	.001	.430
	2:10	.001	.431
	2:20	.038	.434
	2:25	.054	.437
	2:40	.09	.452
	2:50	.11	.466
	3:00	.06	.478
	3:10	.09	.469
	3:22	.15	.509
	3:30	.10	.523
	3:40	.06	.534
	3:50	.038	.541
	4:00	.054	.548
	4:10	.05	.566
	4:20	.038	.582
	4:35	.024	.609

Runoff
G.S. No. 4
Dec. 6-7, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	7:40P	.00	
	8:00	.004	.000
	8:10	.01	.000
	9:30	.01	.006
	9:35	.02	.006
	10:05	.02	.011
	10:10	.03	.012
	10:55	.03	.021
	11:03	.02	.023
	12:00	.02	.031
12/7/33	12:05A	.03	.042
	1:15	.03	.046
	1:30	.04	.050
	2:00	.03	.058
	2:30	.07	.068
	2:50	.06	.078
	3:10	.12	.090
	3:30	.14	.109
	3:40	.16	.119
	3:50	.16	.131
	4:00	.12	.141
	5:30	.12	.217
	6:00	.20	.251
	6:30	.28	.302
	6:55	.24	.312
	7:20	.32	.343
	7:10	.10	.350
	7:16	.26	.365
	7:36	.28	.409
	7:40	.28	.429
	8:00	.14	.458
	9:00	.14	.518
	10:00	.08	.568
	11:00	.06	.595
	12:00	.03	.614
	1:00	.0	.622
	2:00	.01	.626
	2:20	.004	.627
	2:30	.08	.630
	2:35	.12	.634
	2:40	.26	.639
	2:45	.35	.648
	3:00	.30	.663
	3:35	.20	.691
	3:10	.14	.697
	3:20	.35	.715
	3:30	.40	.741
	3:40	.23	.764
	3:50	.16	.778
	4:05	.18	.795
	4:30	.00	.814
	4:45	.25	.870
	4:50	.25	.894
	4:55	.25	.904
	5:55	.20	1.000
12/6/33	6:55	.18	1.001
	7:55	.14	1.149
	9:55	.07	1.238
	11:55	.01	1.272
	12:00	.01	1.273
12/7/33	2:00	.004	1.278
	2:10	.00	1.279

Pullman,
December 1[illegible]
Sheet 2 [illegible]



Runoff
Terrace No. 15
Dec. 5-7, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	3:30A	.00	
	4:00	.024	.006
	5:00	.024	.060
	6:50	.046	.079
	7:00	.07	.111
	7:20	.07	.137
	7:25	.031	.142
	7:40	.07	.156
	8:00	.11	.190
	8:07	.11	.204
	8:15	.06	.217
	8:40	.038	.239
	8:50	.031	.246
	9:00	.064	.264
	9:20	.054	.274
	9:30	.031	.282
	10:00	.018	.296
	10:15	.046	.305
	10:55	.038	.336
	11:10	.024	.344
	12:00	.015	.361
	2:00P	.008	.385
	2:20	.004	.387
	2:30	.038	.391
	2:40	.054	.399

Runoff
Terrace No. 15
Dec. 5-7, 1933

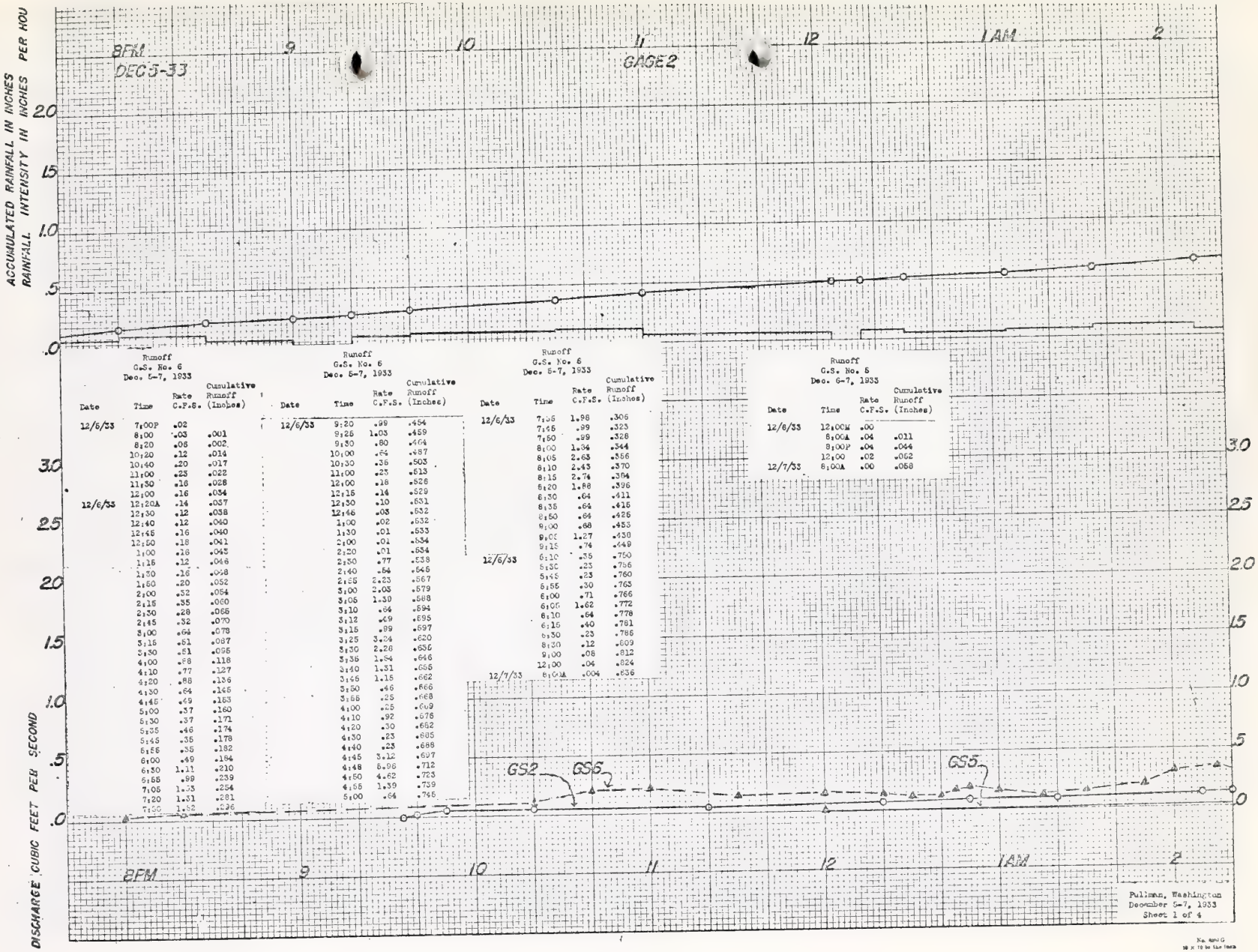
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
	2:45	.15	.409
	2:50	.12	.421
	3:00	.11	.443
	3:05	.046	.450
	3:10	.054	.464
	3:15	.12	.463
	3:30	.12	.496
	3:50	.054	.528
	4:00	.07	.540
	4:10	.07	.553
	4:20	.046	.564
	4:33	.031	.573
	4:40	.34	.597
	4:43	.54	.621
	4:45	.26	.636
	4:50	.14	.655
	5:00	.07	.675
	5:30	.06	.711
	5:50	.06	.733
	6:00	.12	.750
	6:10	.07	.768
	6:30	.054	.791
	7:00	.031	.815
	9:00	.018	.871
	12:00	.004	.907
12/7/33	3:00A	.001	.914
	9:00	.001	.921

Cumulative Rainfall
Gage No. 11
Dec. 5-6, 1933

Date	Time	dt	D	dD	I
12/6/33	9:00A		1.62		
	9:20	20	1.64	.02	.06
	9:40	20	1.65	.01	.03
	10:00	20	1.67	.02	.06
	10:30	30	1.71	.04	.08
	10:35	5	1.73	.02	.24
	10:45	10	1.74	.01	.06
	2:04P	19	1.75	.01	.03
	1:05	61	1.76	.01	.01
	2:10	65	1.76	.00	.00
	2:35	25	1.80	.04	.10
	2:40	5	1.82	.02	.24
	3:00	20	1.89	.07	.21
	3:10	10	1.91	.02	.12
	3:25	15	1.97	.06	.24
	3:40	15	2.00	.03	.12
	3:50	10	2.01	.01	.06
	3:55	5	2.03	.02	.24
	4:05	10	2.04	.01	.06
	4:30	25	2.06	.02	.05
	4:35	5	2.08	.02	.24
	4:40	5	2.12	.04	.48
	4:47	7	2.14	.02	.17
	5:00	13	2.16	.02	.09
	5:30	30	2.18	.02	.04
	5:45	15	2.19	.01	.04
	5:56	11	2.23	.04	.22
	7:30	94	2.25	.02	.01

Cumulative Rainfall
Gage No. 11
Dec. 5-6, 1933

Date	Time	dt	D	dD	I
12/5/33	4:30P		.00		
	6:15	105	.03	.03	.02
	6:37	22	.05	.02	.07
	7:15	38	.08	.03	.05
	8:15	60	.19	.11	.11
	8:30	15	.21	.02	.08
	9:00	30	.23	.02	.04
	9:30	30	.26	.03	.06
	9:50	20	.28	.02	.06
	10:20	30	.36	.08	.16
	10:45	25	.38	.02	.05
	11:45	60	.46	.08	.08
12/6/33	12:03A	18	.46	.00	.00
	12:10	7	.48	.02	.17
	12:55	45	.51	.03	.04
	1:30	35	.57	.06	.10
	2:20	50	.63	.06	.07
	3:15	45	.73	.10	.13
	4:00	45	.87	.14	.15
	5:35	95	1.04	.17	.11
	5:55	20	1.09	.05	.15
	7:10	75	1.34	.26	.20
	7:20	10	1.36	.02	.12
	7:35	15	1.41	.05	.20
	8:00	25	1.49	.08	.19
	8:20	20	1.54	.05	.15
	8:35	15	1.56	.02	.08
	8:55	20	1.62	.06	.18
		5		.00	.00



Runoff
G.S. No. 6
Dec. 5-7, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	7:00P	.02	
	8:00	.03	.001
	8:20	.06	.002
	10:20	.12	.014
	10:40	.20	.017
	11:00	.23	.022
	11:30	.16	.028
	12:00	.16	.034
12/6/33	12:20A	.14	.037
	12:30	.12	.038
	12:40	.12	.040
	12:45	.16	.040
	12:50	.18	.041
	1:00	.16	.043
	1:15	.12	.046
	1:30	.16	.048
	1:50	.20	.052
	2:00	.32	.054
	2:15	.35	.060
	2:30	.28	.065
	2:45	.32	.070
	3:00	.64	.078
	3:15	.61	.087
	3:30	.81	.095
	4:00	.88	.118
	4:10	.77	.127
	4:20	.88	.136
	4:30	.64	.145
	4:45	.49	.153
	5:00	.37	.160
	5:30	.37	.171
	5:35	.46	.174
	5:45	.35	.178
	5:55	.35	.182
	6:00	.49	.184
	6:30	1.11	.210
	6:55	.98	.239
	7:05	1.53	.254
	7:20	1.31	.281
	7:30	1.82	.296

Runoff
G.S. No. 6
Dec. 5-7, 1933

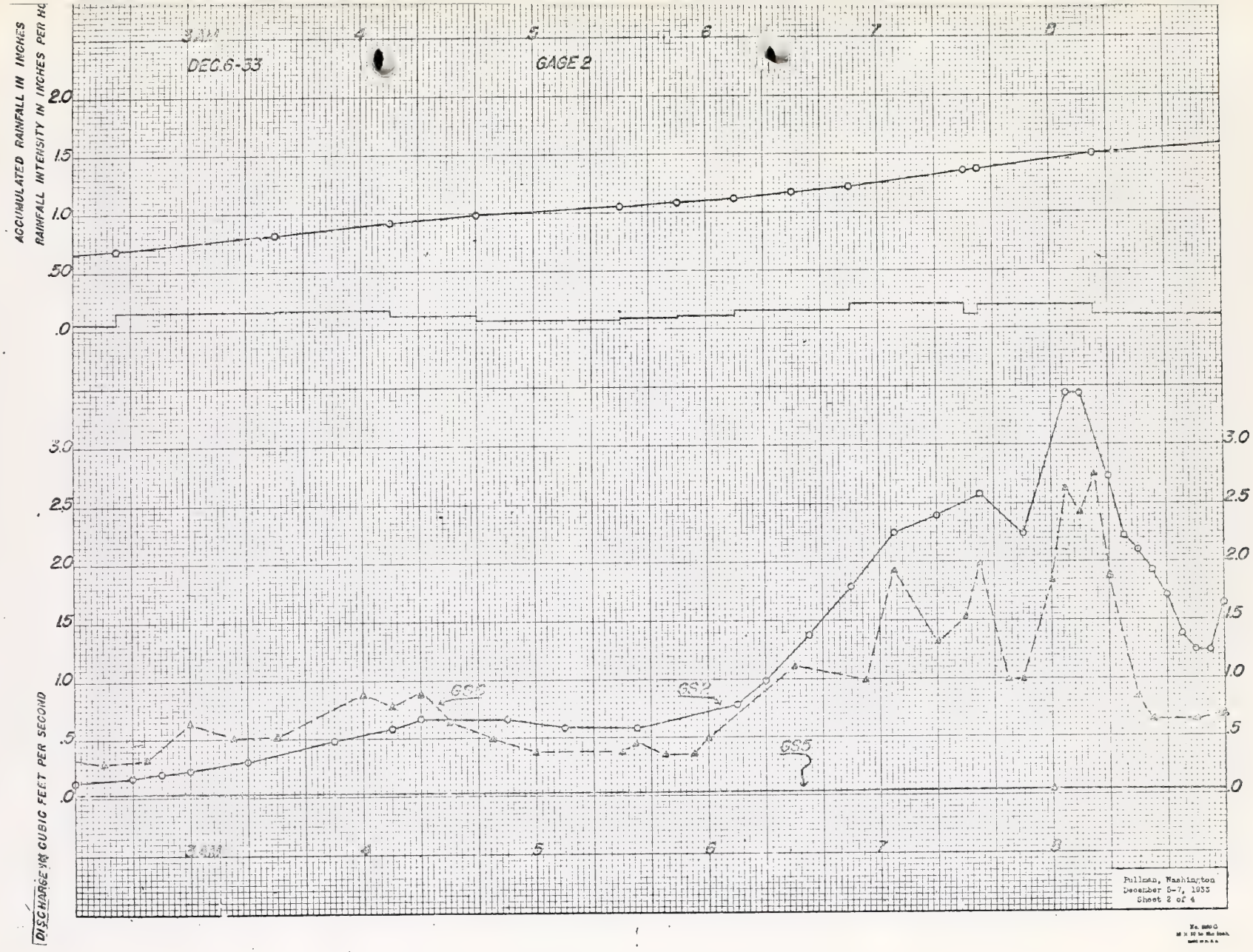
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	9:20	.99	.454
	9:25	1.03	.459
	9:30	.80	.464
	10:00	.64	.487
	10:30	.36	.503
	11:00	.23	.513
	12:00	.18	.526
	12:15	.14	.529
	12:30	.10	.531
	12:46	.03	.532
	1:00	.02	.532
	1:30	.01	.533
	2:00	.01	.534
	2:20	.01	.534
	2:30	.77	.538
	2:40	.54	.546
	2:55	2.23	.557
	3:00	2.05	.579
	3:05	1.30	.588
	3:10	.64	.594
	3:12	.49	.595
	3:15	.99	.597
	3:25	3.24	.620
	3:30	2.26	.636
	3:35	1.64	.646
	3:40	1.31	.655
	3:45	1.15	.662
	3:50	.46	.666
	3:55	.25	.668
	4:00	.25	.669
	4:10	.92	.678
	4:20	.30	.682
	4:30	.23	.685
	4:40	.23	.688
	4:45	3.12	.697
	4:48	5.96	.712
	4:50	4.62	.723
	4:55	1.39	.739
	5:00	.64	.745

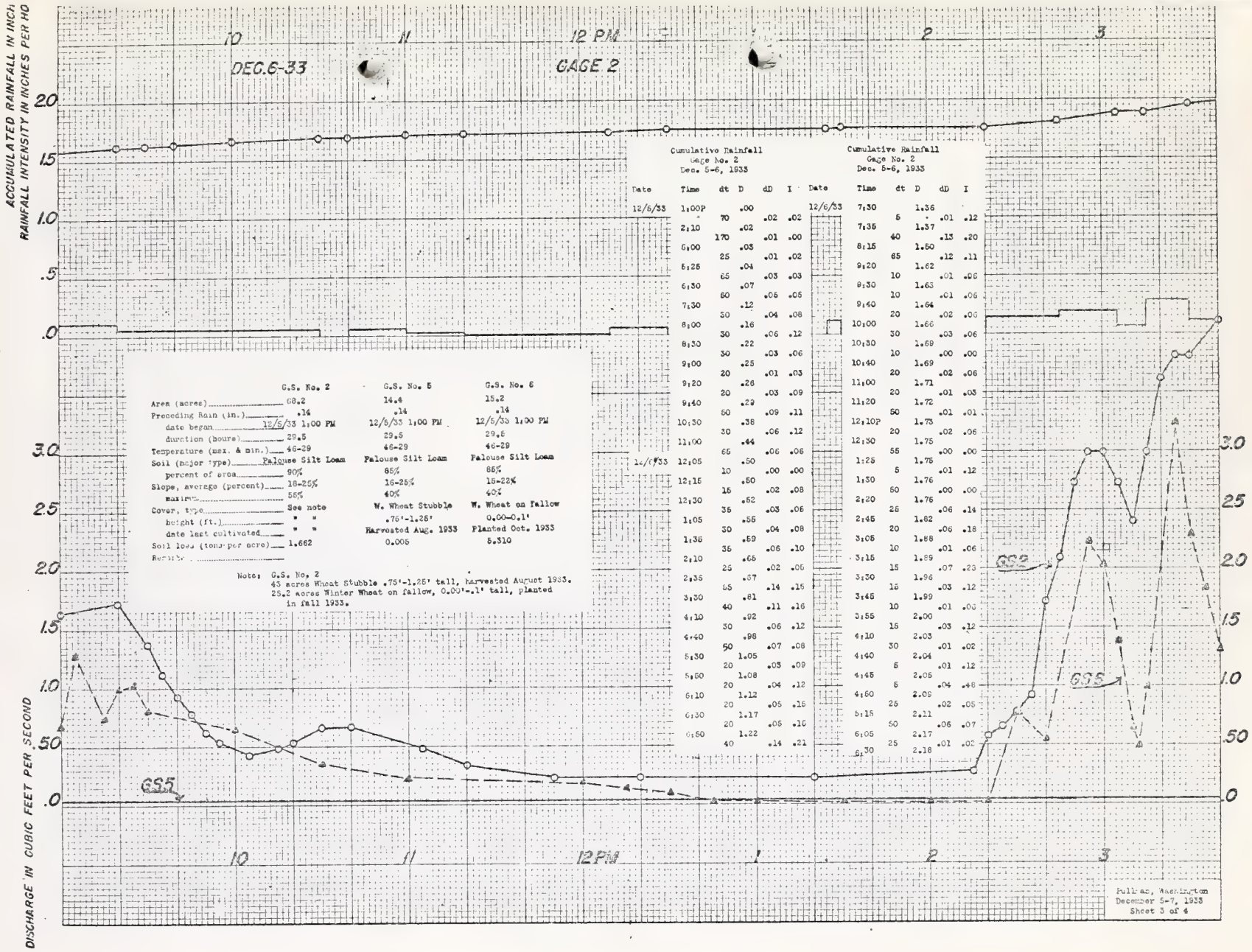
Runoff
G.S. No. 6
Dec. 5-7, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	7:05	1.98	.306
	7:15	.99	.323
	7:50	.99	.328
	8:00	1.34	.344
	8:05	2.63	.356
	8:10	2.43	.370
	8:15	2.74	.384
	8:20	1.88	.396
	8:30	.64	.411
	8:35	.64	.415
	8:50	.64	.426
	9:00	.88	.453
	9:05	1.27	.438
	9:15	.74	.449
12/6/33	5:10	.35	.750
	5:30	.23	.756
	5:45	.23	.760
	5:55	.30	.763
	6:00	.71	.766
	6:05	1.62	.772
	6:10	.64	.778
	6:15	.40	.781
	6:30	.23	.786
	8:30	.12	.809
	9:00	.08	.812
	12:00	.04	.824
12/7/33	8:00A	.004	.836

Runoff
G.S. No. 6
Dec. 6-7, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	12:00M	.00	
	8:00A	.04	.011
	8:00P	.04	.044
	12:00	.02	.062
12/7/33	8:00A	.00	.058


DEC.6-33
GAGE 2
3 AM
4
5
6
7
8
ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HO
2.0
1.5
1.0
.50
.0
DISCHARGE IN CUBIC FEET PER SECOND
3.0
2.5
2.0
1.5
1.0
.5
.0
GS2
GS2
GS5
Pullman, Washington
December 5-7, 1933
Sheet 2 of 4



	G.S. No. 2	G.S. No. 5	G.S. No. 6
Area (acres)	68.2	14.4	15.2
Preceding Rain (in.)	.14	.14	.14
date began	12/5/33 1:00 PM	12/5/33 1:00 PM	12/5/33 1:00 PM
duration (hours)	29.5	29.5	29.5
Temperature (max. & min.)	46-29	46-29	46-29
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%	85%
Slope, average (percent)	18-25%	16-25%	16-22%
maximum	55%	40%	40%
Cover, type	See note	W. Wheat Stubble	W. Wheat on Fallow
height (ft.)	" "	.75'-1.25'	0.00'-0.1'
date last cultivated	" "	Harvested Aug. 1933	Planted Oct. 1933
Soil loss (tons per acre)	1.662	0.005	5.310
Remarks			

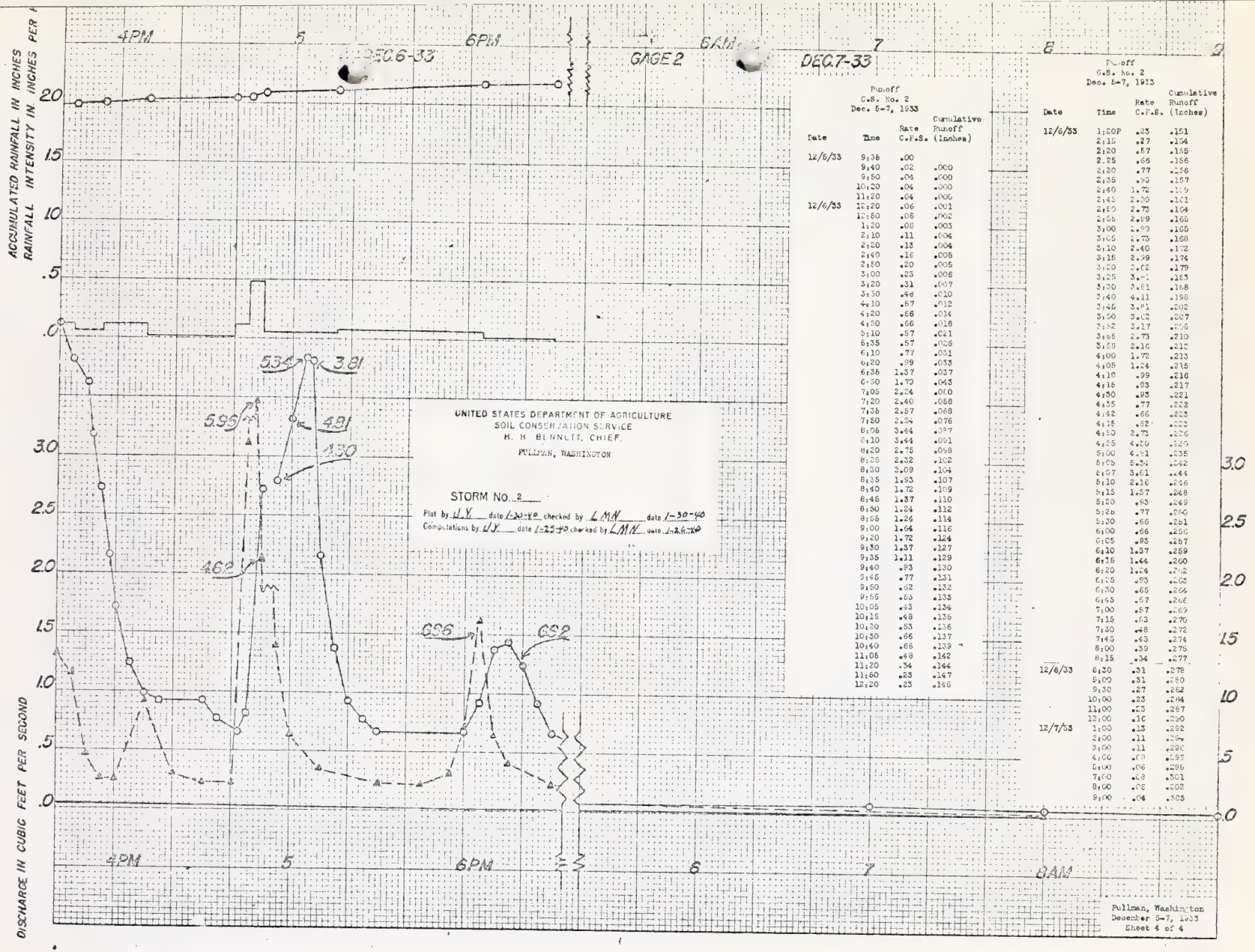
Note: G.S. No. 2
43 acres Wheat Stubble .75'-1.25' tall, harvested August 1933.
25.2 acres Winter Wheat on fallow, 0.00'-.1' tall, planted in fall 1933.

Cumulative Rainfall
Gage No. 2
Dec. 5-6, 1933

Date	Time	dt	D	dD	I
12/5/33	1:00P		.00		
	2:10	70	.02	.02	.02
	5:00	170	.03	.01	.00
	5:25	25	.04	.01	.02
	6:30	65	.07	.03	.03
	7:30	60	.12	.06	.05
	8:00	30	.16	.04	.08
	8:30	30	.22	.06	.12
	9:00	30	.25	.03	.06
	9:20	20	.26	.01	.03
	9:40	20	.29	.03	.09
	10:30	50	.38	.09	.11
	11:00	30	.44	.06	.12
12/6/33	12:05	65	.50	.06	.06
	12:15	10	.50	.00	.00
	12:30	15	.52	.02	.08
	1:05	35	.55	.03	.06
	1:35	30	.59	.04	.08
	2:10	35	.65	.06	.10
	2:35	25	.67	.02	.05
	3:30	55	.81	.14	.15
	4:10	40	.92	.11	.16
	4:40	30	.98	.06	.12
	5:30	50	1.05	.07	.08
	6:50	20	1.08	.03	.09
	6:10	20	1.12	.04	.12
	6:30	20	1.17	.05	.15
	6:50	20	1.22	.05	.15
		40		.14	.21

Cumulative Rainfall
Gage No. 2
Dec. 5-6, 1933

Date	Time	dt	D	dD	I
12/6/33	7:30		1.36		
	7:35	5	1.37	.01	.12
	8:15	40	1.50	.13	.20
	9:20	65	1.62	.12	.11
	9:30	10	1.63	.01	.06
	9:40	10	1.64	.01	.06
	10:00	20	1.66	.02	.06
	10:30	30	1.69	.03	.06
	10:40	10	1.69	.00	.00
	11:00	20	1.71	.02	.06
	11:20	20	1.72	.01	.03
	12:10P	50	1.73	.01	.01
	12:30	20	1.75	.02	.06
	1:25	55	1.75	.00	.00
	1:30	5	1.76	.01	.12
	2:20	50	1.76	.00	.00
	2:45	25	1.82	.06	.14
	3:05	20	1.88	.06	.18
	3:15	10	1.89	.01	.06
	3:30	15	1.96	.07	.23
	3:45	15	1.99	.03	.12
	3:55	10	2.00	.01	.06
	4:10	15	2.03	.03	.12
	4:40	30	2.04	.01	.02
	4:45	5	2.05	.01	.12
	4:50	5	2.09	.04	.48
	5:15	25	2.11	.02	.05
	6:05	50	2.17	.06	.07
	6:30	25	2.18	.01	.02



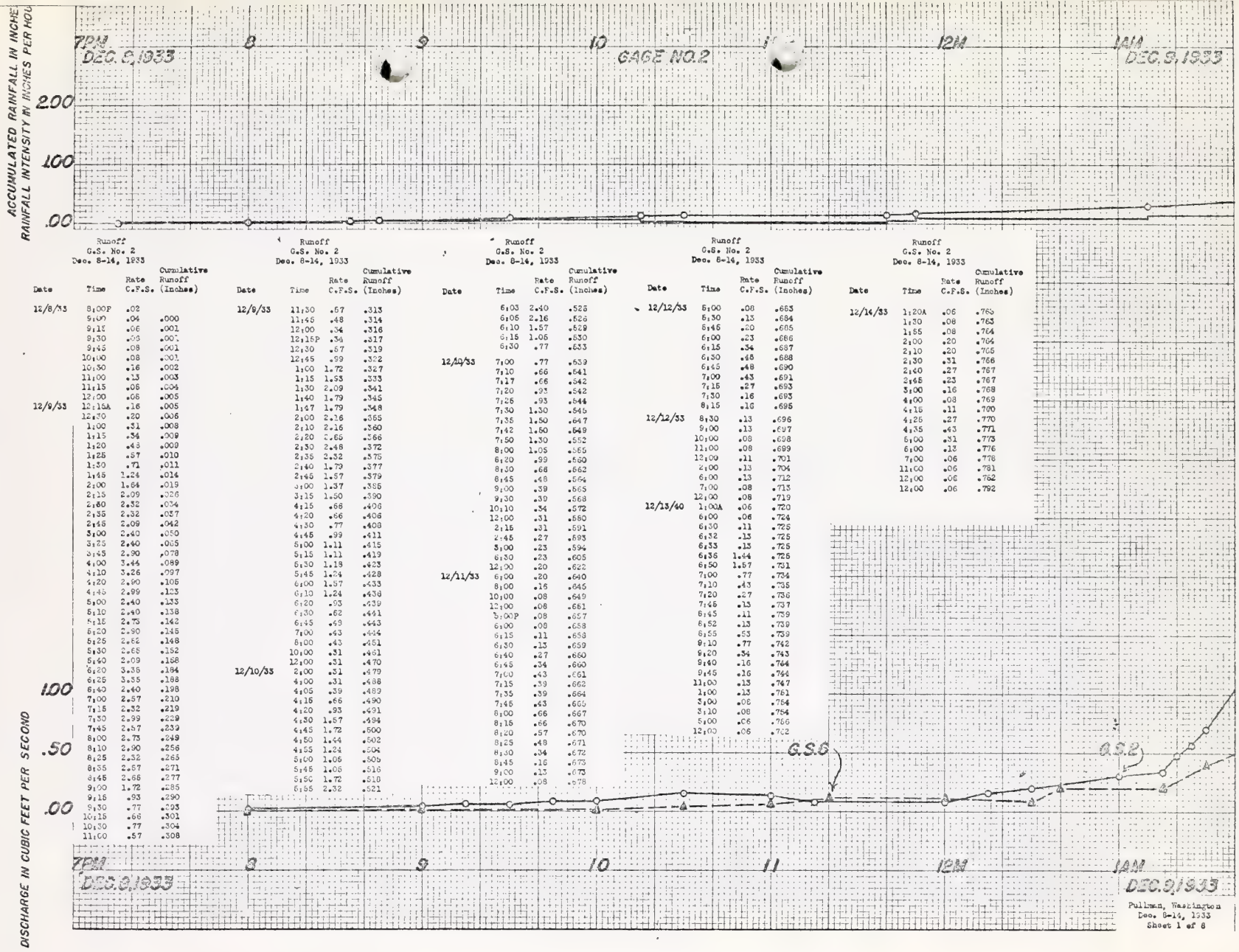
Runoff
G.S. No. 2
Dec. 5-7, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	9:35	.00	
	9:40	.02	.000
	9:50	.04	.000
	10:20	.04	.000
	11:20	.04	.000
12/6/33	12:20	.06	.001
	12:50	.08	.002
	1:20	.08	.003
	2:10	.11	.004
	2:20	.13	.004
	2:40	.16	.005
	2:50	.20	.005
	3:00	.23	.006
	3:20	.31	.007
	3:30	.46	.010
	4:10	.57	.012
	4:20	.66	.014
	4:50	.66	.018
	5:10	.57	.021
	6:35	.57	.026
	6:10	.77	.031
	6:20	.89	.033
	6:36	1.37	.037
	6:50	1.79	.043
	7:05	2.24	.050
	7:20	2.40	.058
	7:35	2.57	.068
	7:50	2.34	.076
	8:05	3.44	.087
	8:10	3.44	.091
	8:20	2.75	.098
	8:25	2.32	.102
	8:30	2.09	.104
	8:35	1.93	.107
	8:40	1.72	.109
	8:46	1.37	.110
	8:50	1.24	.112
	8:55	1.26	.114
	9:00	1.64	.116
	9:20	1.72	.124
	9:30	1.37	.127
	9:35	1.11	.129
	9:40	.93	.130
	9:46	.77	.131
	9:50	.82	.132
	9:55	.63	.133
	10:05	.83	.134
	10:15	.48	.135
	10:20	.53	.136
	10:30	.66	.137
	10:40	.66	.139
	11:05	.48	.142
	11:20	.34	.144
	11:50	.23	.147
	12:20	.23	.146

Runoff
G.S. No. 2
Dec. 5-7, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/6/33	1:20P	.23	.151
	2:15	.27	.154
	2:20	.37	.155
	2.25	.66	.156
	2:30	.77	.156
	2:35	.95	.157
	2:40	1.72	.159
	2:45	2.39	.161
	2:50	2.75	.164
	2:55	2.49	.166
	3:00	2.92	.165
	3:05	2.73	.168
	3:10	2.40	.172
	3:15	2.99	.174
	3:20	3.02	.179
	3:25	3.[illegible]	.183
	3:30	3.81	.188
	3:40	4.11	.198
	3:45	3.81	.202
	3:50	3.02	.207
	3:52	3.17	.208
	3:56	2.73	.210
	3:58	2.16	.212
	4:00	1.72	.213
	4:05	1.24	.215
	4:10	.99	.216
	4:16	.93	.217
	4:30	.83	.221
	4:35	.77	.222
	4:42	.66	.223
	4:15	.82	.222
	4:50	2.73	.226
	4:55	4.20	.229
	5:00	4.81	.235
	5:05	5.34	.242
	5:07	3.61	.244
	5:10	2.16	.246
	5:15	1.37	.248
	5:20	.93	.249
	5:25	.77	.250
	5:30	.66	.251
	5:00	.66	.256
	6:05	.83	.257
	6:10	1.37	.259
	6:15	1.44	.260
	6:20	1.24	.262
	6:25	.93	.263
	6:30	.65	.264
	6:45	.57	.266
	7:00	.57	.269
	7:15	.63	.270
	7:30	.48	.272
	7:45	.43	.274
	8:00	.39	.275
	8:15	.34	.277
12/6/33	8:30	.31	.278
	9:00	.31	.280
	9:30	.27	.282
	10:00	.23	.284
	11:00	.23	.287
	12:00	.10	.290
12/7/33	1:00	.13	.292
	2:00	.11	.294
	3:00	.11	.296
	4:00	.08	.297
	5:00	.06	.298
	7:00	.08	.301
	8:00	.08	.302
	9:00	.04	.303

Pullman, Washington
December 5-7, 1933
Sheet 4 of 4



Runoff
G.S. No. 2
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/8/33	8:00P	.02	
	9:00	.04	.000
	9:15	.06	.001
	9:30	.06	.001
	9:45	.08	.001
	10:00	.08	.001
	10:30	.16	.002
	11:00	.13	.003
	11:15	.08	.004
	12:00	.08	.005
12/9/33	12:15A	.16	.005
	12:30	.20	.006
	1:00	.31	.008
	1:15	.34	.009
	1:20	.43	.009
	1:25	.57	.010
	1:30	.71	.011
	1:45	1.24	.014
	2:00	1.64	.019
	2:15	2.09	.026
	2:30	2.32	.034
	2:35	2.32	.037
	2:45	2.09	.042
	3:00	2.40	.050
	3:25	2.40	.065
	3:45	2.90	.078
	4:00	3.44	.089
	4:10	3.26	.097
	4:20	2.90	.105
	4:45	2.99	.123
	5:00	2.40	.133
	5:10	2.40	.138
	5:15	2.73	.142
	5:20	2.90	.145
	5:25	2.82	.148
	5:30	2.65	.152
	5:40	2.09	.158
	6:20	3.35	.184
	6:25	3.55	.188
	6:40	2.40	.198
	7:00	2.57	.210
	7:15	2.32	.219
	7:30	2.99	.229
	7:45	2.57	.239
	8:00	2.73	.249
	8:10	2.90	.256
	8:25	2.32	.265
	8:35	2.57	.271
	8:45	2.65	.277
	9:00	1.72	.285
	9:15	.93	.290
	9:30	.77	.293
	10:15	.68	.301
	10:30	.77	.304
	11:00	.57	.308

Runoff
G.S. No. 2
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/9/33	11:30	.57	.313
	11:45	.48	.314
	12:00	.34	.316
	12:15P	.34	.317
	12:30	.57	.319
	12:45	.99	.322
	1:00	1.72	.327
	1:15	1.53	.333
	1:30	2.09	.341
	1:40	1.79	.345
	1:47	1.79	.348
	2:00	2.26	.355
	2:10	2.16	.360
	2:20	2.65	.366
	2:30	2.48	.372
	2:35	2.32	.375
	2:40	1.79	.377
	2:46	1.57	.379
	3:00	1.37	.385
	3:15	1.50	.390
	4:15	.68	.406
	4:20	.66	.406
	4:30	.77	.408
	4:45	.99	.411
	5:00	1.11	.415
	5:15	1.11	.419
	5:30	1.18	.423
	5:45	1.24	.428
	6:00	1.57	.433
	6:10	1.24	.436
	6:20	.93	.439
	6:30	.62	.441
	6:45	.49	.443
	7:00	.43	.444
	8:00	.43	.451
	10:00	.31	.461
	12:00	.31	.470
12/10/33	2:00	.31	.479
	4:00	.31	.488
	4:05	.39	.489
	4:15	.66	.490
	4:20	.93	.491
	4:30	1.57	.494
	4:45	1.72	.500
	4:50	1.44	.502
	4:55	1.24	.504
	5:00	1.05	.505
	5:45	1.05	.516
	5:50	1.72	.518
	5:55	2.32	.521

Runoff
G.S. No. 2
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
	6:03	2.40	.525
	6:05	2.16	.526
	6:10	1.57	.529
	6:15	1.05	.530
	6:30	.77	.533
12/12/33	7:00	.77	.539
	7:10	.66	.541
	7:17	.66	.542
	7:20	.93	.542
	7:26	.93	.544
	7:30	1.30	.545
	7:35	1.50	.547
	7:42	1.50	.549
	7:50	1.30	.552
	8:00	1.05	.555
	8:20	.99	.560
	8:30	.66	.562
	8:45	.48	.564
	9:00	.39	.565
	9:30	.39	.568
	10:10	.34	.572
	12:00	.31	.580
	2:15	.31	.591
	2:45	.27	.593
	3:00	.23	.594
	6:30	.23	.605
	12:00	.20	.622
12/11/33	6:00	.20	.640
	8:00	.16	.645
	10:00	.08	.649
	12:00	.08	.651
	3:00P	.08	.657
	6:00	.08	.658
	6:15	.11	.658
	6:30	.13	.659
	6:40	.27	.660
	6:45	.34	.660
	7:00	.43	.661
	7:15	.39	.662
	7:35	.39	.664
	7:45	.43	.665
	8:00	.66	.667
	8:15	.66	.670
	8:20	.57	.670
	8:25	.48	.671
	8:30	.34	.672
	8:45	.16	.673
	9:00	.13	.673
	12:00	.08	.678

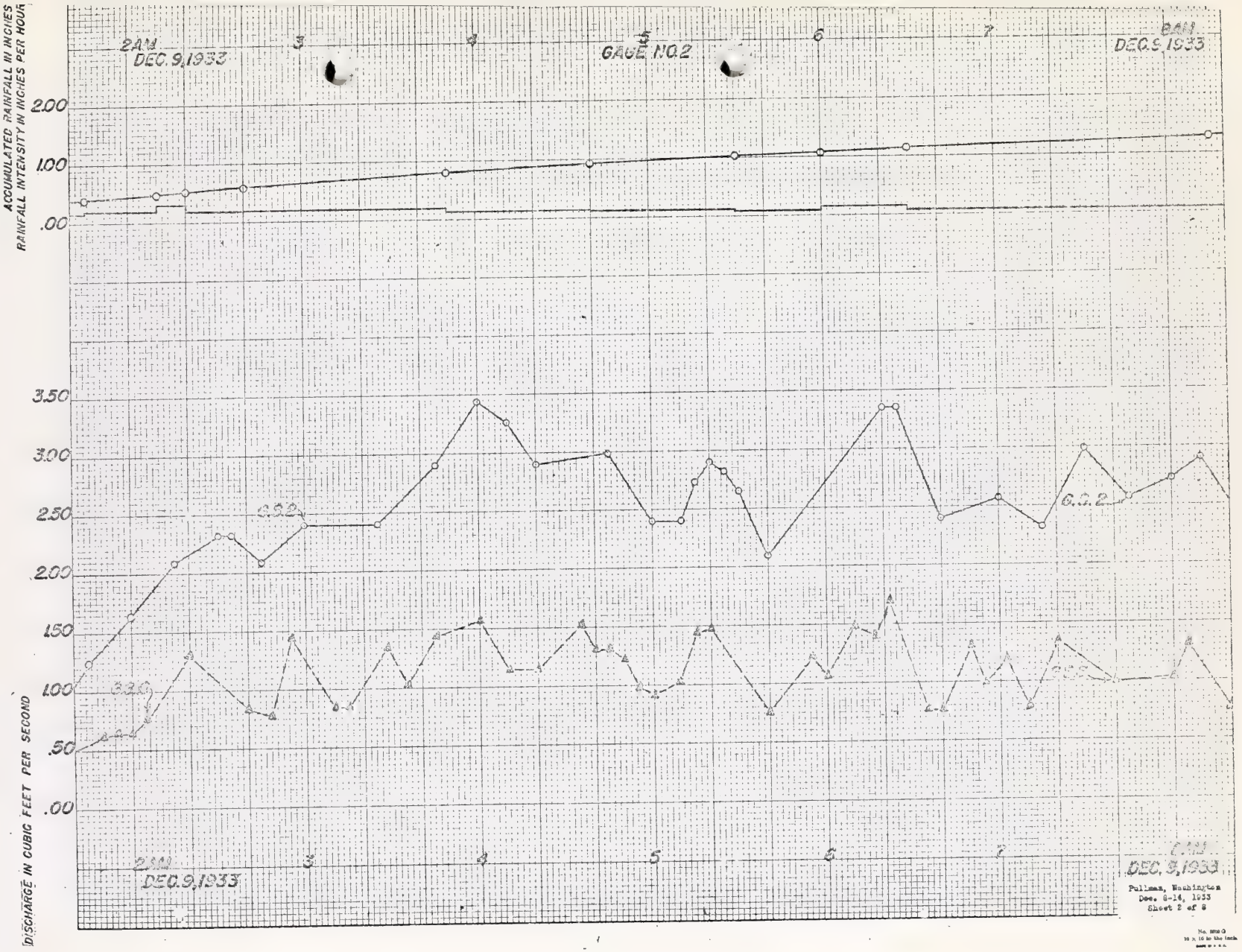
Runoff
G.S. No. 2
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/12/33	5:00	.08	.683
	5:30	.13	.684
	5:46	.20	.685
	6:00	.23	.686
	6:15	.34	.687
	6:30	.48	.688
	6:45	.48	.690
	7:00	.43	.691
	7:15	.27	.693
	7:30	.16	.693
	8:15	.16	.695
12/12/33	8:30	.13	.696
	9:00	.13	.697
	10:00	.08	.698
	11:00	.08	.699
	12:00	.11	.701
	2:00	.13	.704
	6:00	.13	.712
	7:00	.08	.713
	12:00	.08	.719
12/13/40	1:00A	.06	.720
	6:00	.06	.724
	6:30	.11	.725
	6:32	.13	.725
	6:33	.13	.725
	6:36	1.44	.726
	6:50	1.57	.731
	7:00	.77	.734
	7:10	.43	.735
	7:20	.27	.736
	7:46	.13	.737
	8:45	.11	.739
	8:52	.13	.739
	8:55	.53	.739
	9:10	.77	.742
	9:20	.34	.743
	9:40	.16	.744
	9:45	.16	.744
	11:00	.13	.747
	1:00	.13	.751
	3:00	.06	.754
	3:10	.08	.754
	5:00	.06	.756
	12:00	.06	.762

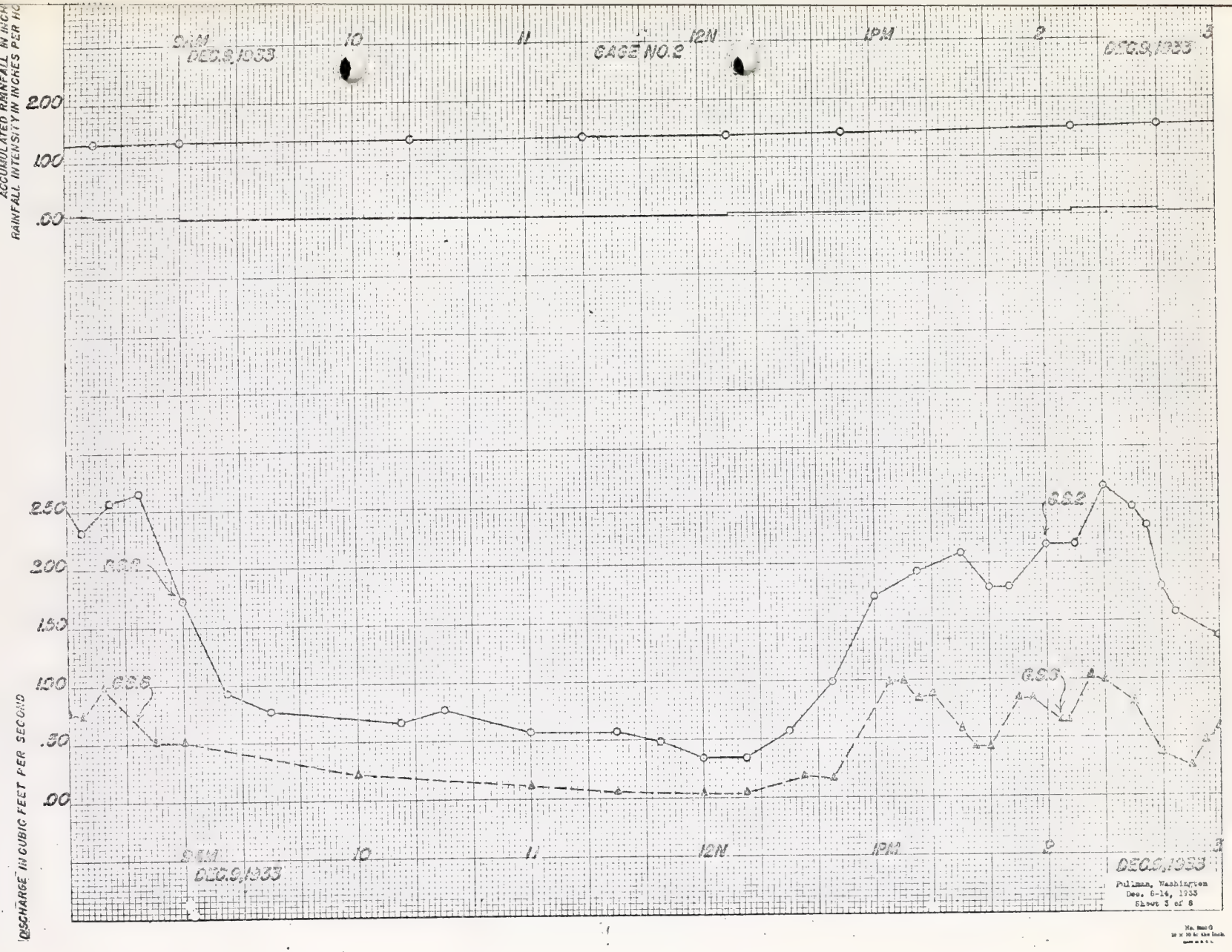
Runoff
G.S. No. 2
Dec. 8-14, 1933

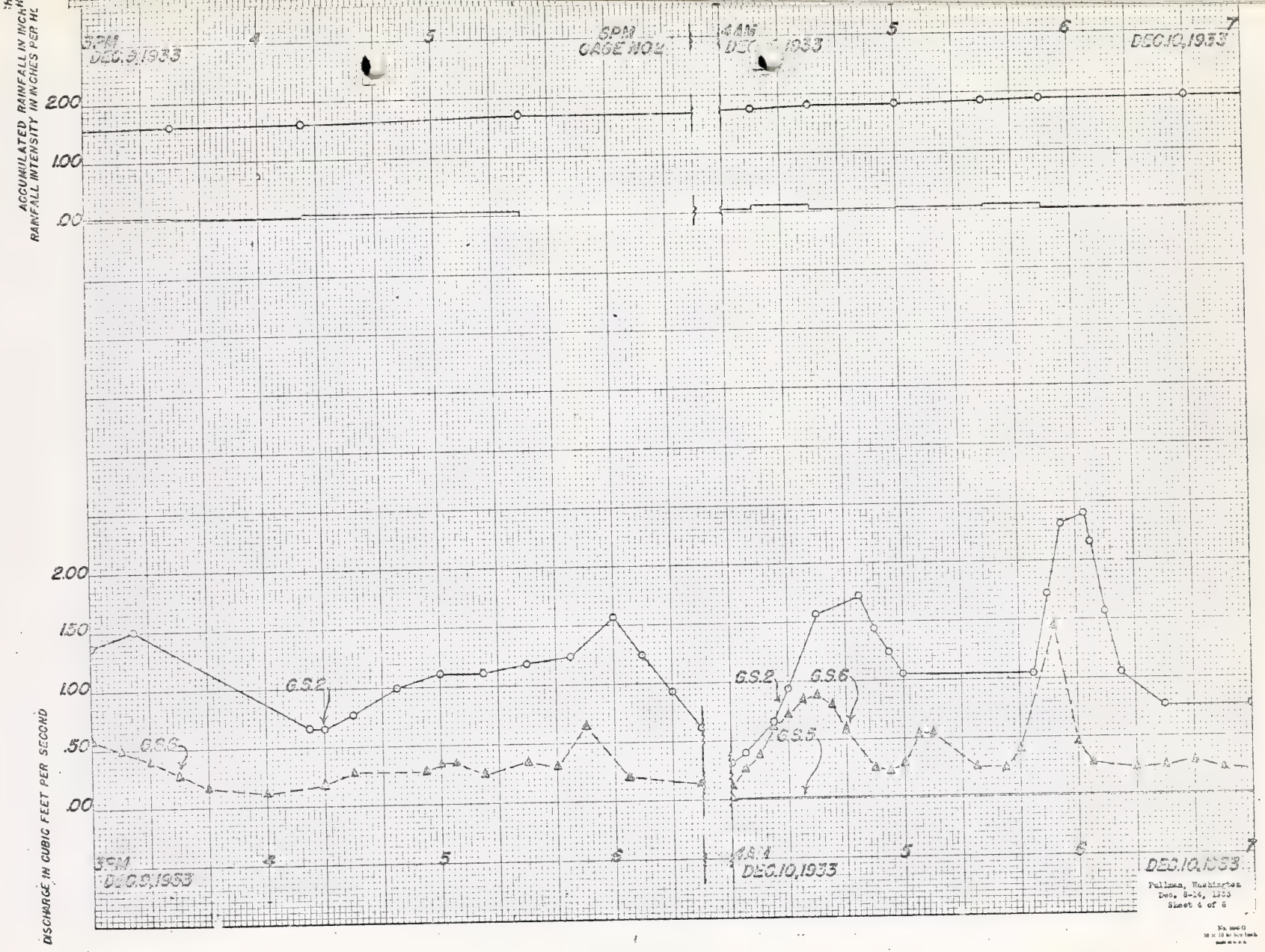
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/14/33	1:20A	.06	.763
	1:30	.08	.763
	1:55	.08	.764
	2:00	.20	.764
	2:10	.20	.765
	2:30	.31	.766
	2:40	.27	.767
	2:45	.23	.767
	3:00	.16	.768
	4:00	.08	.769
	4:15	.11	.770
	4:25	.27	.770
	4:35	.43	.771
	5:00	.31	.773
	6:00	.13	.776
	7:00	.06	.778
	11:00	.06	.781
	12:00	.06	.782
	12:00	.06	.792

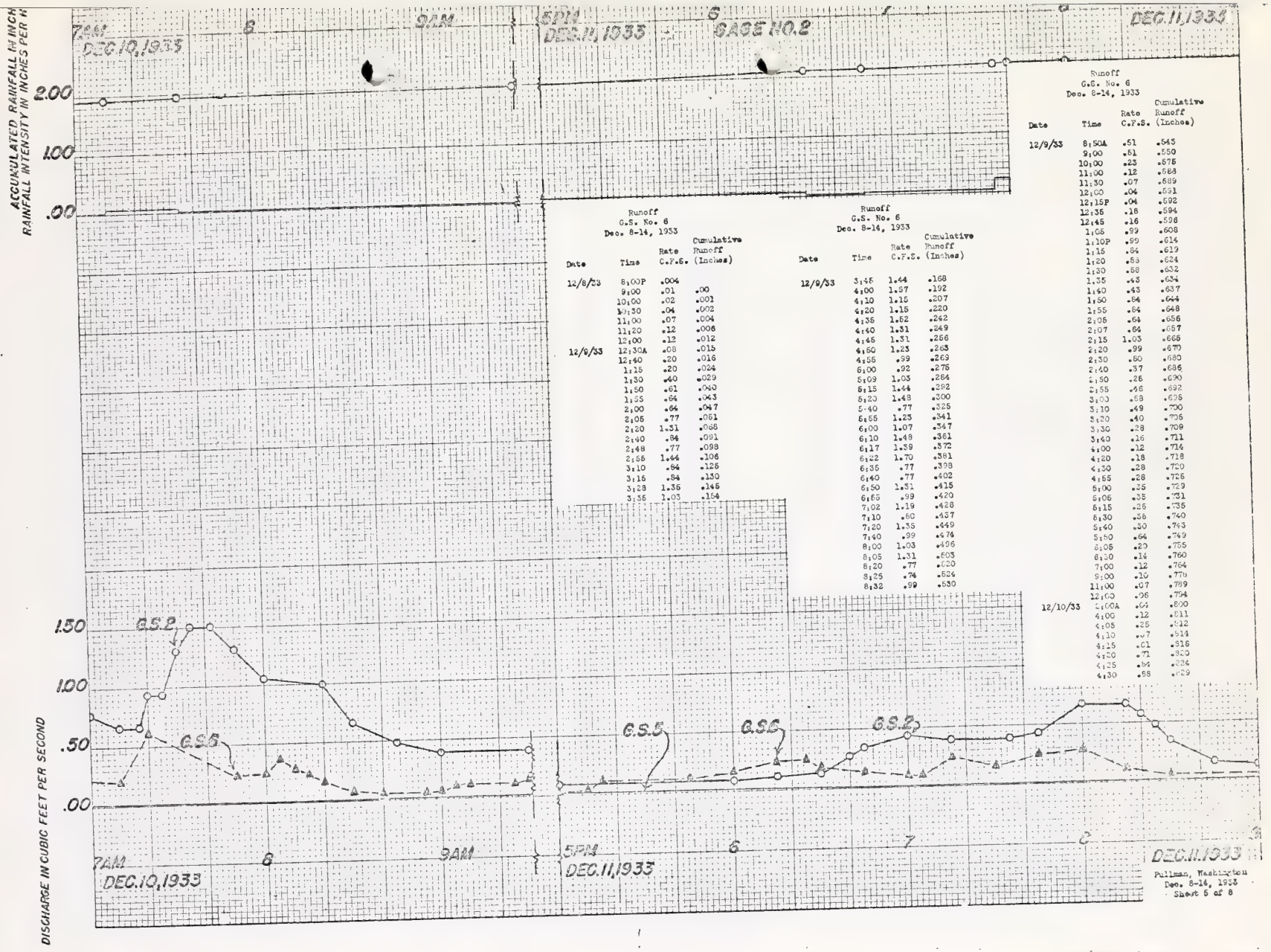
Pullman, Washington
Dec. 8-14, 1933
Sheet 1 of 8



Pullman, Washington
Dec. 8-14, 1933
Sheet 2 of 8


ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HOUR
DISCHARGE IN CUBIC FEET PER SECOND
GAGE NO. 2
9 AM DEC. 8, 1933
10
11
12 N
1 PM
2
3
DEC. 9, 1933
2.00
1.00
.00
2.50
2.00
1.50
1.00
.50
.00
G.S.2
G.S.3
Pullman, Washington
Dec. 8-14, 1933
Sheet 3 of 8


ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HO
DISCHARGE IN CUBIC FEET PER SECOND
3PM DEC.9,1933
4
5
SPM GAGE NO.2
4AM DEC.10,1933
5
6
7
DEC.10,1933
2.00
1.00
.00
2.00
1.50
1.00
.50
.00
G.S.2
G.S.6
G.S.2
G.S.6
G.S.5
3PM DEC.9,1933
4
5
6
4AM DEC.10,1933
5
6
7
DEC.10,1933
Pullman, Washington
Dec. 8-14, 1933
Sheet 4 of 6



Runoff
G.S. No. 6
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/8/33	8:00P	.004	
	9:00	.01	.00
	10:00	.02	.001
	10:30	.04	.002
	11:00	.07	.004
	11:20	.12	.006
	12:00	.12	.012
12/9/33	12:30A	.08	.015
	12:40	.20	.016
	1:15	.20	.024
	1:30	.40	.029
	1:50	.61	.040
	1:55	.64	.043
	2:00	.64	.047
	2:05	.77	.051
	2:20	1.31	.068
	2:40	.84	.091
	2:48	.77	.098
	2:55	1.44	.106
	3:10	.84	.125
	3:16	.84	.130
	3:28	1.36	.145
	3:36	1.03	.154

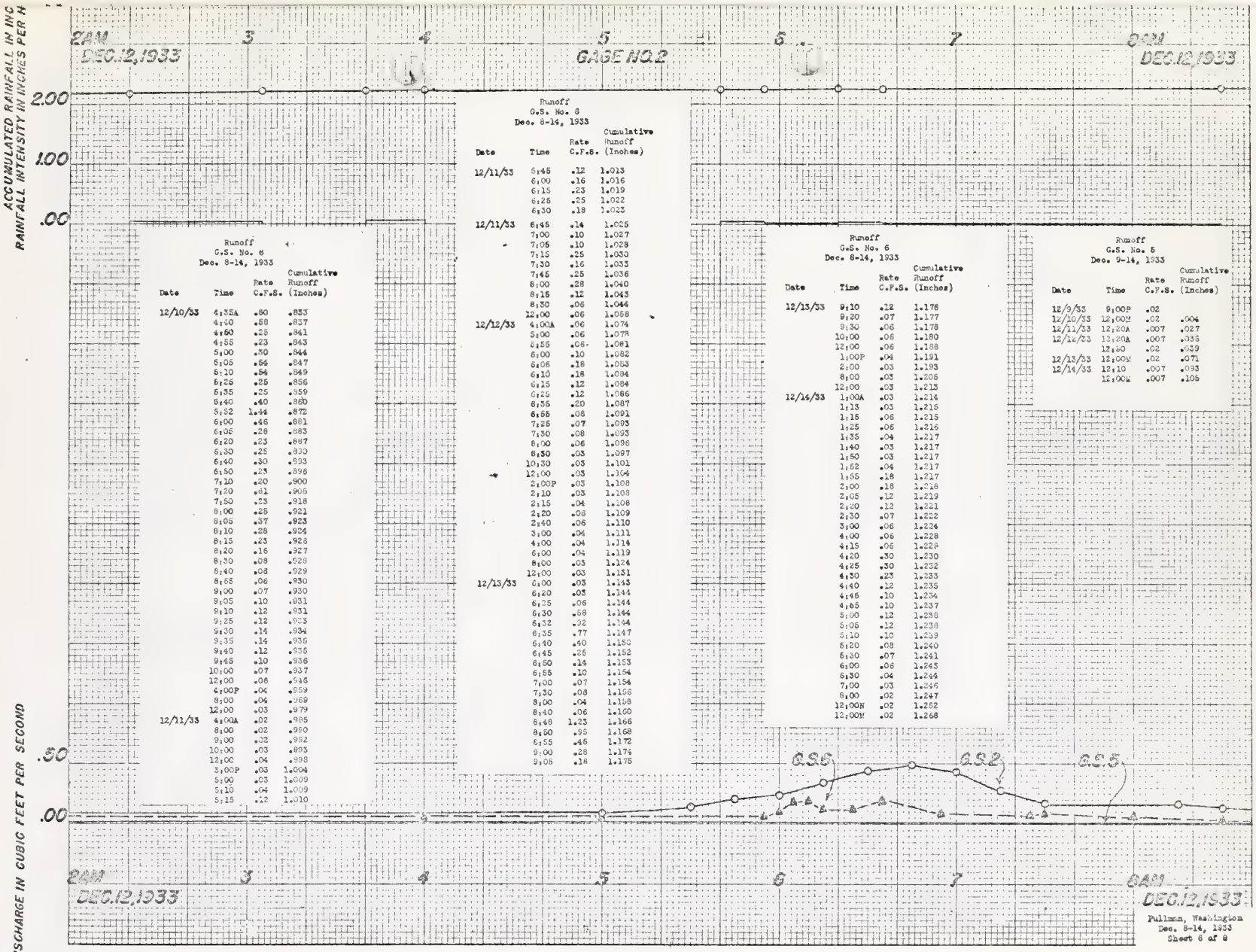
Runoff
G.S. No. 6
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/9/33	3:45	1.44	.168
	4:00	1.57	.192
	4:10	1.15	.207
	4:20	1.15	.220
	4:35	1.52	.242
	4:40	1.31	.249
	4:45	1.31	.256
	4:50	1.23	.263
	4:55	.99	.269
	5:00	.92	.276
	5:09	1.03	.284
	5:15	1.44	.292
	5:20	1.48	.300
	5:40	.77	.325
	5:55	1.23	.341
	6:00	1.07	.347
	6:10	1.48	.361
	6:17	1.39	.372
	6:22	1.70	.381
	6:35	.77	.398
	6:40	.77	.402
	6:50	1.31	.415
	6:55	.99	.420
	7:02	1.19	.428
	7:10	.60	.437
	7:20	1.35	.449
	7:40	.99	.474
	8:00	1.03	.496
	8:05	1.31	.503
	8:20	.77	.520
	8:25	.74	.524
	8:32	.99	.530

Runoff
G.S. No. 6
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/9/33	8:50A	.51	.545
	9:00	.51	.550
	10:00	.23	.575
	11:00	.12	.583
	11:30	.07	.589
	12:00	.04	.591
	12:15P	.04	.592
	12:35	.18	.594
	12:45	.16	.596
	1:05	.99	.608
	1:10P	.99	.614
	1:15	.84	.619
	1:20	.83	.624
	1:30	.58	.632
	1:35	.43	.634
	1:40	.43	.637
	1:50	.84	.644
	1:55	.84	.648
	2:05	.64	.656
	2:07	.64	.657
	2:15	1.03	.665
	2:20	.99	.670
	2:30	.80	.680
	2:40	.37	.686
	2:50	.25	.690
	2:55	.46	.692
	3:00	.58	.695
	3:10	.49	.700
	3:20	.40	.706
	3:30	.28	.709
	3:40	.16	.711
	4:00	.12	.714
	4:20	.18	.718
	4:30	.28	.720
	4:55	.28	.725
	5:00	.35	.729
	5:06	.35	.731
	5:15	.25	.735
	5:30	.28	.740
	5:40	.30	.743
	5:50	.64	.749
	6:05	.20	.755
	6:30	.14	.760
	7:00	.12	.764
	9:00	.10	.775
	11:00	.07	.789
	12:00	.06	.794
12/10/33	2:00A	.04	.800
	4:00	.12	.811
	4:05	.25	.812
	4:10	.37	.814
	4:15	.61	.816
	4:20	.71	.820
	4:25	.84	.824
	4:30	.88	.829

Pullman, Washington
Dec. 8-14, 1933
Sheet 5 of 8



Runoff
G.S. No. 6
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/10/33	4:35A	.80	.833
	4:40	.58	.837
	4:60	.25	.841
	4:55	.23	.843
	5:00	.30	.844
	5:05	.54	.847
	5:10	.54	.849
	5:25	.25	.856
	5:35	.25	.859
	5:40	.40	.860
	5:52	1.44	.872
	6:00	.46	.881
	6:05	.28	.883
	6:20	.23	.887
	6:30	.25	.890
	6:40	.30	.893
	6:50	.23	.898
	7:10	.20	.900
	7:20	.81	.905
	7:50	.23	.918
	8:00	.25	.921
	8:05	.37	.923
	8:10	.28	.924
	8:15	.23	.926
	8:20	.16	.927
	8:30	.08	.928
	8:40	.08	.929
	8:65	.06	.930
	9:00	.07	.930
	9:05	.10	.931
	9:10	.12	.931
	9:25	.12	.933
	9:30	.14	.934
	9:35	.14	.935
	9:40	.12	.935
	9:45	.10	.936
	10:00	.07	.937
	12:00	.06	.946
	4:00P	.04	.959
	8:00	.04	.969
	12:00	.03	.979
12/11/33	4:00A	.02	.985
	8:00	.02	.990
	9:00	.02	.992
	10:00	.03	.993
	12:00	.04	.998
	3:00P	.03	1.004
	5:00	.03	1.009
	5:10	.04	1.009
	5:15	.12	1.010

Runoff
G.S. No. 6
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/11/33	5:45	.12	1.013
	6:00	.16	1.016
	6:15	.23	1.019
	6:25	.25	1.022
	6:30	.18	1.023
12/11/33	6:45	.14	1.025
	7:00	.10	1.027
	7:05	.10	1.028
	7:15	.25	1.030
	7:30	.16	1.033
	7:45	.25	1.036
	8:00	.28	1.040
	8:15	.12	1.043
	8:30	.06	1.044
	12:00	.06	1.058
12/12/33	4:00A	.06	1.074
	5:00	.06	1.078
	5:55	.06	1.081
	6:00	.10	1.082
	6:05	.18	1.083
	6:10	.18	1.084
	6:15	.12	1.084
	6:25	.12	1.086
	6:35	.20	1.087
	6:65	.08	1.091
	7:25	.07	1.093
	7:30	.08	1.093
	8:00	.06	1.096
	8:30	.03	1.097
	10:30	.03	1.101
	12:00	.03	1.104
	2:00P	.03	1.108
	2:10	.03	1.108
	2:15	.04	1.108
	2:20	.06	1.109
	2:40	.06	1.110
	3:00	.04	1.111
	4:00	.04	1.114
	6:00	.04	1.119
	8:00	.03	1.124
	12:00	.03	1.131
12/13/33	6:00	.03	1.143
	6:20	.03	1.144
	6:25	.06	1.144
	6:30	.68	1.144
	6:32	.32	1.144
	6:35	.77	1.147
	6:40	.40	1.150
	6:45	.25	1.152
	6:50	.14	1.153
	6:55	.10	1.154
	7:00	.07	1.154
	7:30	.08	1.156
	8:00	.04	1.158
	8:40	.06	1.160
	8:48	1.23	1.166
	8:50	.95	1.168
	8:55	.46	1.172
	9:00	.28	1.174
	9:05	.18	1.175

Runoff
G.S. No. 6
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/13/33	9:10	.12	1.176
	9:20	.07	1.177
	9:30	.06	1.178
	10:00	.06	1.180
	12:00	.06	1.188
	1:00P	.04	1.191
	2:00	.03	1.193
	8:00	.03	1.206
	12:00	.03	1.213
12/14/33	1:00A	.03	1.214
	1:13	.03	1.215
	1:15	.06	1.215
	1:25	.06	1.216
	1:35	.04	1.217
	1:40	.03	1.217
	1:50	.03	1.217
	1:52	.04	1.217
	1:55	.18	1.217
	2:00	.18	1.218
	2:05	.12	1.219
	2:20	.12	1.221
	2:30	.07	1.222
	3:00	.06	1.224
	4:00	.06	1.228
	4:15	.06	1.228
	4:20	.30	1.230
	4:25	.30	1.232
	4:30	.23	1.233
	4:40	.12	1.235
	4:46	.10	1.234
	4:65	.10	1.237
	5:00	.12	1.238
	5:05	.12	1.238
	5:10	.10	1.239
	5:20	.08	1.240
	5:30	.07	1.241
	6:00	.06	1.243
	6:30	.04	1.244
	7:00	.03	1.246
	6:00	.02	1.247
	12:00N	.02	1.252
	12:00M	.02	1.268

Runoff
G.S. No. 5
Dec. 9-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/9/33	9:00P	.02	
12/10/33	12:00M	.02	.004
12/11/33	12:20A	.007	.027
12/12/33	12:20A	.007	.033
	12:20	.02	.039
12/13/33	12:00M	.02	.071
12/14/33	12:10	.007	.093
	12:00M	.007	.105

Pullman, Washington
Dec. 8-14, 1933
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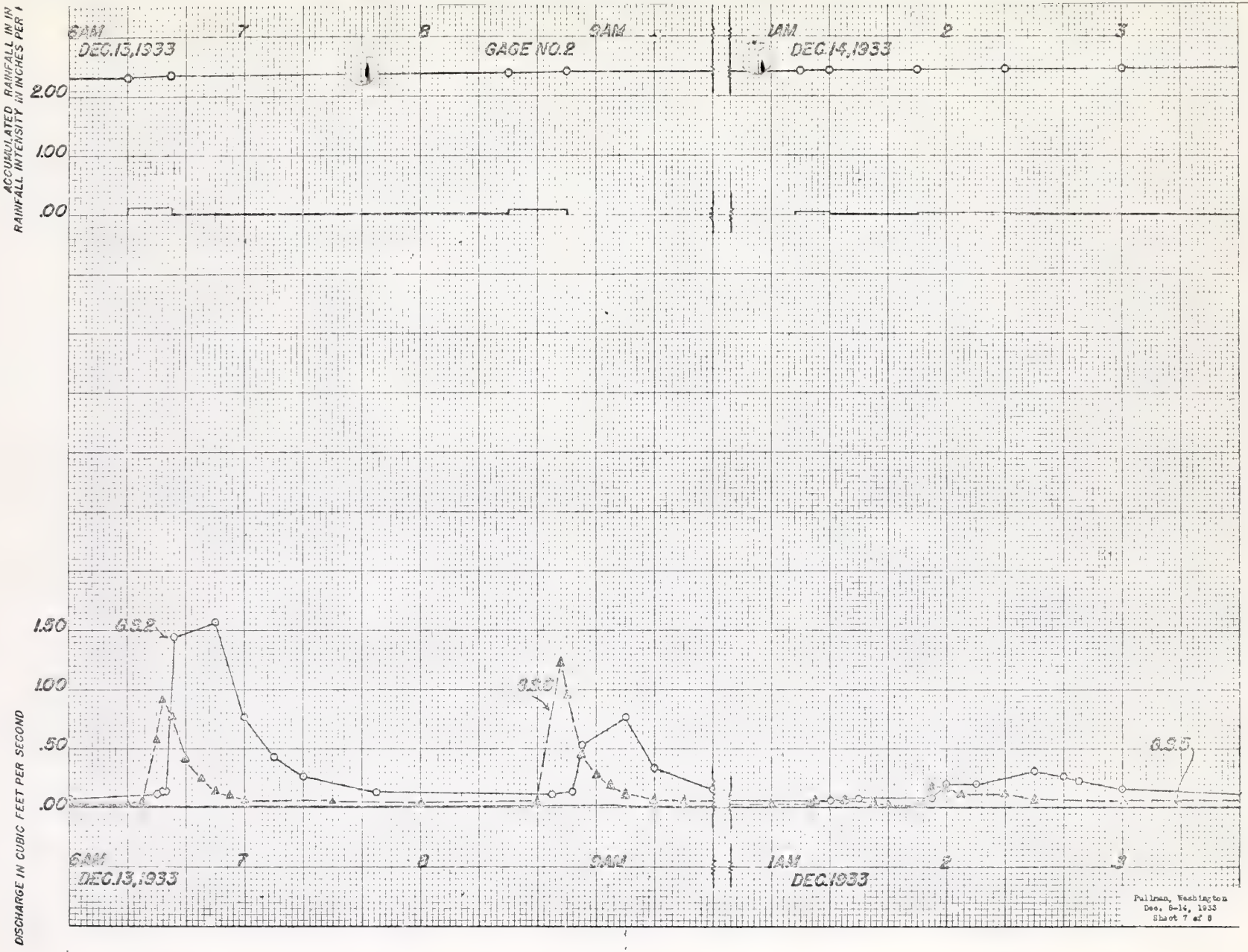
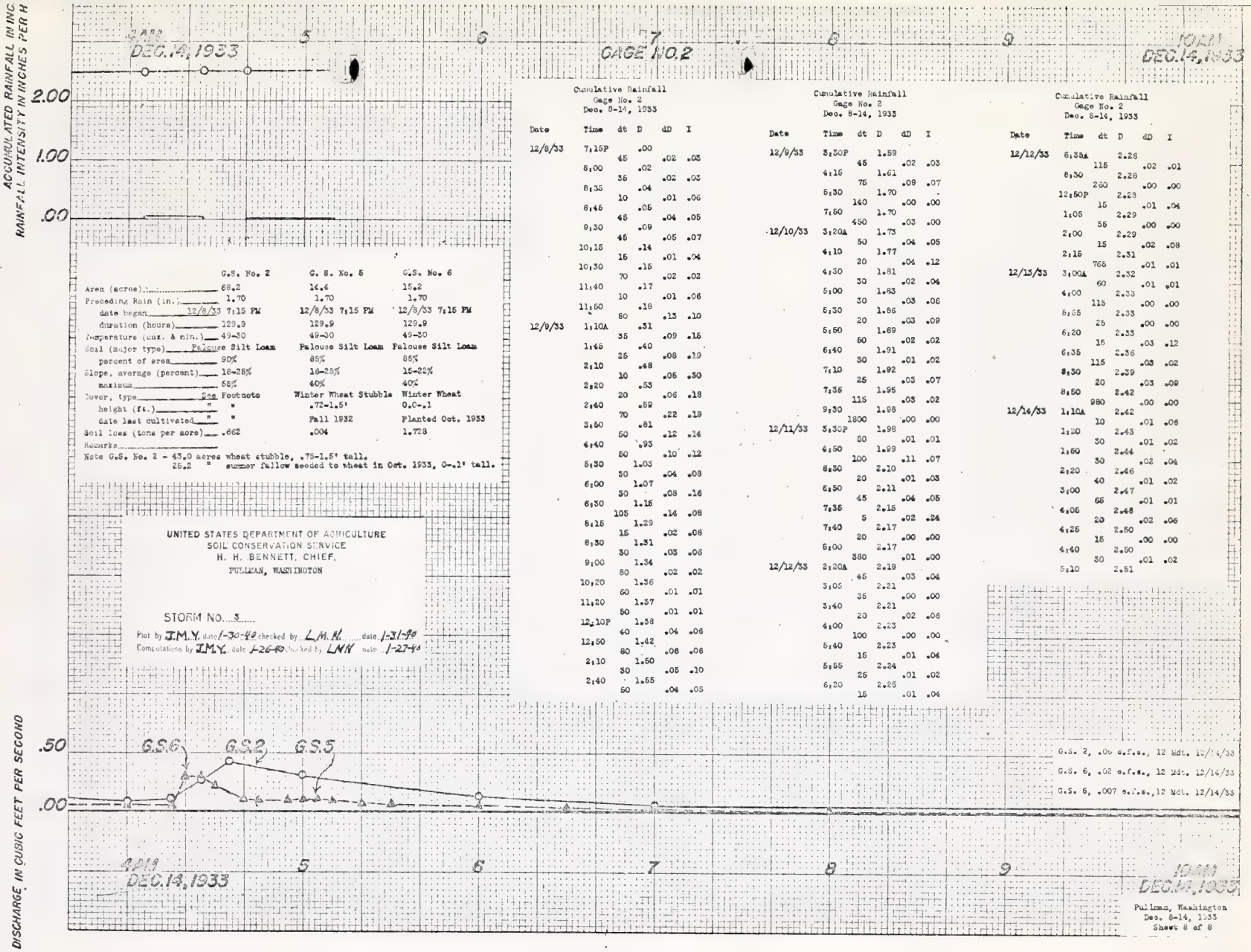


Pullman, Washington
Dec. 6-14, 1933
Sheet 7 of 8



	G.S. No. 2	G. S. No. 5	G.S. No. 6
Area (acres)	68.2	14.4	15.2
Preceding Rain (in.)	1.70	1.70	1.70
date began	12/8/33 7:15 PM	12/8/33 7:15 PM	12/8/33 7:15 PM
duration (hours)	129.9	129.9	129.9
Temperature (max. & min.)	49-30	49-30	49-30
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%	85%
Slope, average (percent)	18-25%	18-25%	15-22%
maximum	55%	40%	40%
Cover, type	See Footnote	Winter Wheat Stubble	Winter Wheat
height (ft.)	"	.72-1.5'	0.0-.1
date last cultivated	"	Fall 1932	Planted Oct. 1933
Soil loss (tons per acre)	.862	.004	1.728
Remarks			

Note G.S. No. 2 - 43.0 acres wheat stubble, .75-1.5' tall.
25.2 " summer fallow seeded to wheat in Oct. 1933, 0-.1' tall.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM NO. 5

Plot by J.M.Y. date 1-30-49 checked by L.M.N. date 1-31-49
Computations by J.M.Y. date 1-26-49 checked by LMN date 1-27-49

Cumulative Rainfall
Gage No. 2
Dec. 8-14, 1933

Date	Time	dt	D	dD	I
12/8/33	7:15P		.00		
		45		.02	.03
	8:00		.02		
		35		.02	.03
	8:35		.04		
		10		.01	.06
	8:45		.05		
		45		.04	.05
	9:30		.09		
		45		.05	.07
	10:15		.14		
		15		.01	.04
	10:30		.15		
		70		.02	.02
	11:40		.17		
		10		.01	.06
	11:50		.18		
		80		.13	.10
12/9/33	1:10A		.31		
		35		.09	.15
	1:45		.40		
		25		.08	.19
	2:10		.48		
		10		.05	.30
	2:20		.53		
		20		.06	.18
	2:40		.59		
		70		.22	.19
	3:50		.81		
		50		.12	.14
	4:40		.93		
		50		.10	.12
	5:30		1.03		
		30		.04	.08
	6:00		1.07		
		30		.08	.16
	6:30		1.15		
		105		.14	.08
	8:15		1.29		
		15		.02	.08
	8:30		1.31		
		30		.03	.06
	9:00		1.34		
		80		.02	.02
	10:20		1.36		
		60		.01	.01
	11:20		1.37		
		50		.01	.01
	12:10P		1.38		
		40		.04	.06
	12:50		1.42		
		80		.08	.06
	2:10		1.50		
		30		.05	.10
	2:40		1.55		
		50		.04	.05

Cumulative Rainfall
Gage No. 2
Dec. 8-14, 1933

Date	Time	dt	D	dD	I
12/9/33	3:30P		1.59		
		45		.02	.03
	4:15		1.61		
		75		.09	.07
	5:30		1.70		
		140		.00	.00
	7:50		1.70		
		450		.03	.00
12/10/33	3:20A		1.73		
		50		.04	.05
	4:10		1.77		
		20		.04	.12
	4:30		1.81		
		30		.02	.04
	5:00		1.83		
		30		.03	.06
	5:30		1.86		
		20		.03	.09
	5:50		1.89		
		50		.02	.02
	6:40		1.91		
		30		.01	.02
	7:10		1.92		
		25		.03	.07
	7:35		1.95		
		115		.03	.02
	9:30		1.98		
		1800		.00	.00
12/11/33	3:30P		1.98		
		80		.01	.01
	4:50		1.99		
		100		.11	.07
	6:30		2.10		
		20		.01	.03
	6:50		2.11		
		45		.04	.05
	7:35		2.15		
		5		.02	.24
	7:40		2.17		
		20		.00	.00
	8:00		2.17		
		380		.01	.00
12/12/33	2:20A		2.18		
		45		.03	.04
	3:05		2.21		
		35		.00	.00
	3:40		2.21		
		20		.02	.06
	4:00		2.23		
		100		.00	.00
	5:40		2.23		
		15		.01	.04
	5:55		2.24		
		25		.01	.02
	6:20		2.25		
		15		.01	.04

Cumulative Rainfall
Gage No. 2
Dec. 8-14, 1933

Date	Time	dt	D	dD	I
12/12/33	6:35A		2.26		
		115		.02	.01
	8:30		2.28		
		260		.00	.00
	12:50P		2.28		
		15		.01	.04
	1:05		2.29		
		55		.00	.00
	2:00		2.29		
		15		.02	.08
	2:15		2.31		
		765		.01	.01
12/13/33	3:00A		2.32		
		60		.01	.01
	4:00		2.33		
		115		.00	.00
	5:55		2.33		
		25		.00	.00
	6:20		2.33		
		15		.03	.12
	6:35		2.36		
		115		.03	.02
	8:30		2.39		
		20		.03	.09
	8:50		2.42		
		980		.00	.00
12/14/33	1:10A		2.42		
		10		.01	.06
	1:20		2.43		
		30		.01	.02
	1:50		2.44		
		30		.02	.04
	2:20		2.46		
		40		.01	.02
	3:00		2.47		
		65		.01	.01
	4:05		2.48		
		20		.02	.06
	4:25		2.50		
		15		.00	.00
	4:40		2.50		
		30		.01	.02
	5:10		2.51		

G.S. 2, .06 c.f.s., 12 Mdt. 12/14/33
G.S. 6, .02 c.f.s., 12 Mdt. 12/14/33
G.S. 5, .007 c.f.s., 12 Mdt. 12/14/33

Pullman, Washington
Dec. 8-14, 1933
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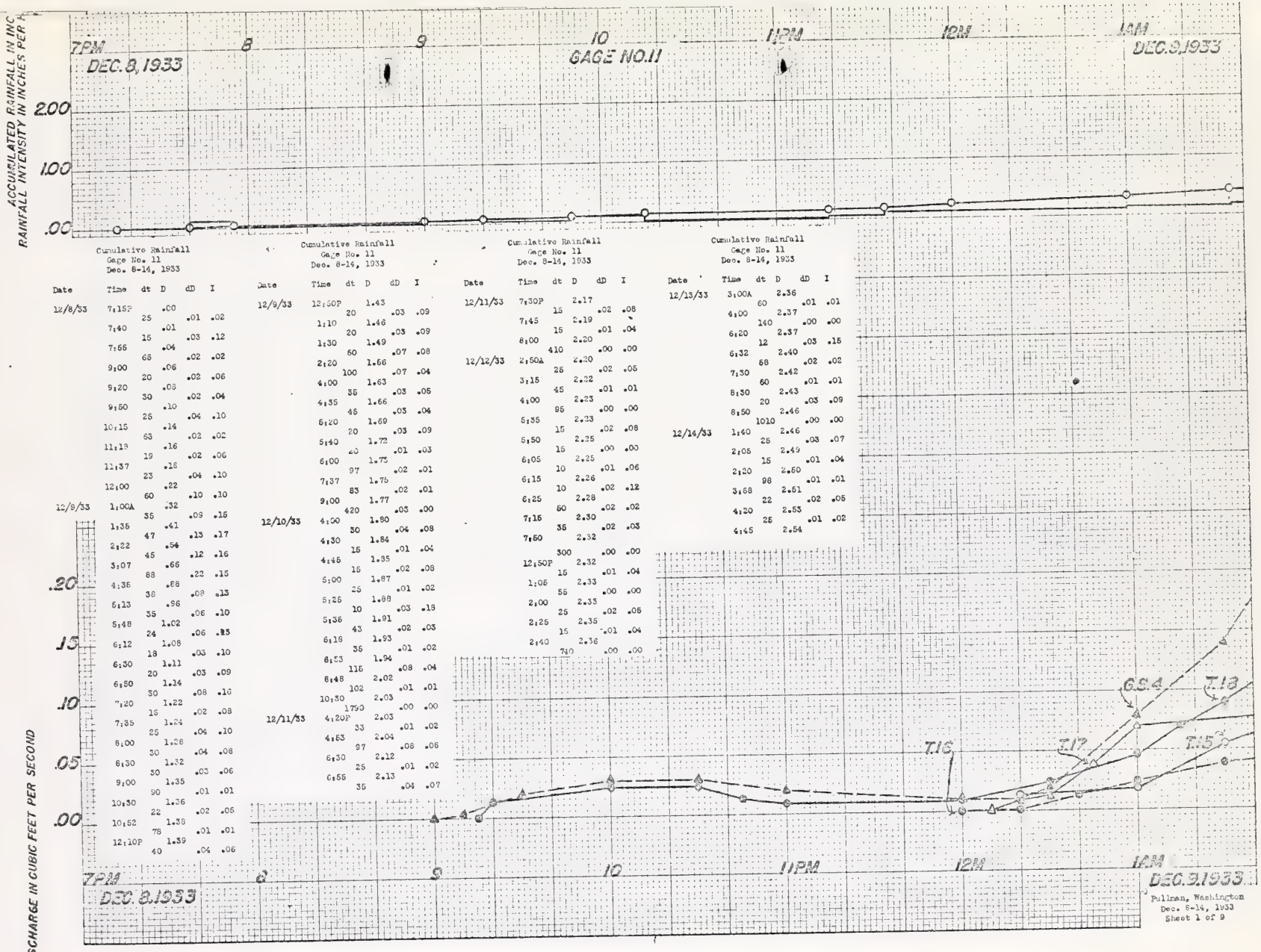

Cumulative Rainfall
Gage No. 11
Dec. 8-14, 1933

Date	Time	dt	D	dD	I
12/8/33	7:15P		.00		
		25		.01	.02
	7:40		.01		
		15		.03	.12
	7:55		.04		
		65		.02	.02
	9:00		.06		
		20		.02	.06
	9:20		.08		
		30		.02	.04
	9:50		.10		
		25		.04	.10
	10:15		.14		
		63		.02	.02
	11:18		.16		
		19		.02	.06
	11:37		.18		
		23		.04	.10
	12:00		.22		
		60		.10	.10
12/9/33	1:00A		.32		
		35		.09	.16
	1:35		.41		
		47		.13	.17
	2:22		.54		
		45		.12	.16
	3:07		.66		
		88		.22	.15
	4:35		.88		
		38		.08	.13
	5:13		.96		
		35		.06	.10
	5:48		1.02		
		24		.06	.15
	6:12		1.08		
		18		.03	.10
	6:30		1.11		
		20		.03	.09
	6:50		1.14		
		30		.08	.16
	7:20		1.22		
		15		.02	.08
	7:35		1.24		
		25		.04	.10
	8:00		1.28		
		30		.04	.08
	8:30		1.32		
		30		.03	.06
	9:00		1.35		
		90		.01	.01
	10:30		1.36		
		22		.02	.05
	10:52		1.38		
		78		.01	.01
	12:10P		1.39		
		40		.04	.06

Cumulative Rainfall
Gage No. 11
Dec. 8-14, 1933

Date	Time	dt	D	dD	I
12/9/33	12:30P		1.43		
		20		.03	.09
	1:10		1.46		
		20		.03	.09
	1:30		1.49		
		50		.07	.08
	2:20		1.56		
		100		.07	.04
	4:00		1.63		
		35		.03	.05
	4:35		1.66		
		45		.03	.04
	5:20		1.69		
		20		.03	.09
	5:40		1.72		
		20		.01	.03
	6:00		1.73		
		97		.02	.01
	7:37		1.75		
		83		.02	.01
	9:00		1.77		
		420		.03	.00
12/10/33	4:00		1.80		
		30		.04	.08
	4:30		1.84		
		15		.01	.04
	4:45		1.85		
		15		.02	.08
	5:00		1.87		
		25		.01	.02
	5:25		1.88		
		10		.03	.18
	5:35		1.91		
		43		.02	.03
	6:18		1.93		
		36		.01	.02
	6:53		1.94		
		115		.08	.04
	8:48		2.02		
		102		.01	.01
	10:30		2.03		
		1790		.00	.00
12/11/33	4:20P		2.03		
		33		.01	.02
	4:53		2.04		
		97		.08	.06
	6:30		2.12		
		25		.01	.02
	6:55		2.13		
		35		.04	.07

Cumulative Rainfall
Gage No. 11
Dec. 8-14, 1933

Date	Time	dt	D	dD	I
12/11/33	7:30P		2.17		
		15		.02	.08
	7:45		2.19		
		15		.01	.04
	8:00		2.20		
		410		.00	.00
12/12/33	2:50A		2.20		
		25		.02	.05
	3:15		2.22		
		45		.01	.01
	4:00		2.23		
		95		.00	.00
	5:35		2.23		
		15		.02	.08
	5:50		2.25		
		15		.00	.00
	6:05		2.25		
		10		.01	.06
	6:15		2.26		
		10		.02	.12
	6:25		2.28		
		50		.02	.02
	7:15		2.30		
		35		.02	.03
	7:50		2.32		
		300		.00	.00
	12:50P		2.32		
		15		.01	.04
	1:05		2.33		
		55		.00	.00
	2:00		2.33		
		25		.02	.05
	2:25		2.35		
		15		.01	.04
	2:40		2.36		
		740		.00	.00

Cumulative Rainfall
Gage No. 11
Dec. 8-14, 1933

Date	Time	dt	D	dD	I
12/13/33	3:00A		2.36		
		60		.01	.01
	4:00		2.37		
		140		.00	.00
	6:20		2.37		
		12		.03	.15
	6:32		2.40		
		58		.02	.02
	7:30		2.42		
		60		.01	.01
	8:30		2.43		
		20		.03	.09
	8:50		2.46		
		1010		.00	.00
12/14/33	1:40		2.46		
		25		.03	.07
	2:05		2.49		
		15		.01	.04
	2:20		2.50		
		98		.01	.01
	3:58		2.51		
		22		.02	.05
	4:20		2.53		
		25		.01	.02
	4:45		2.54		

Pullman, Washington
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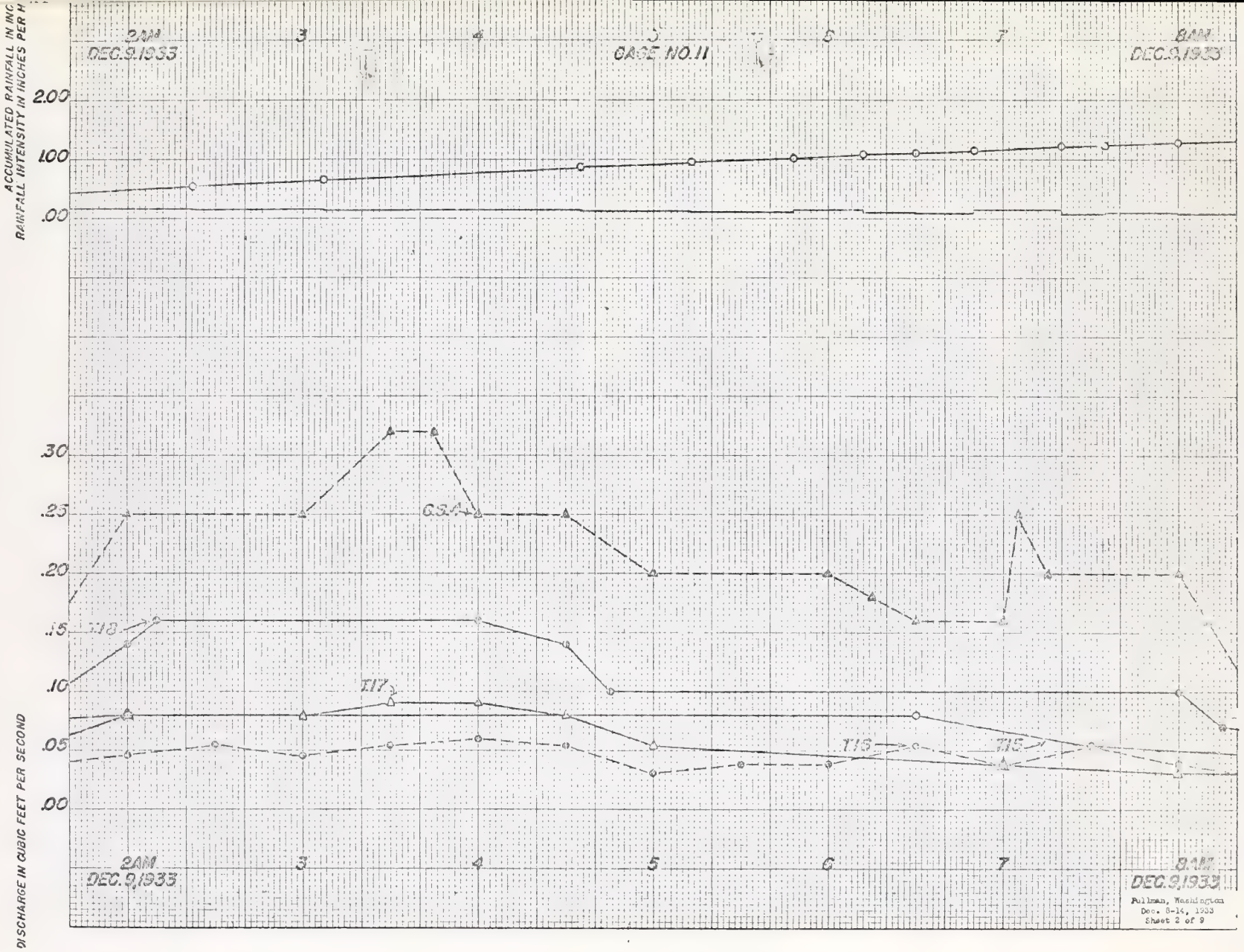
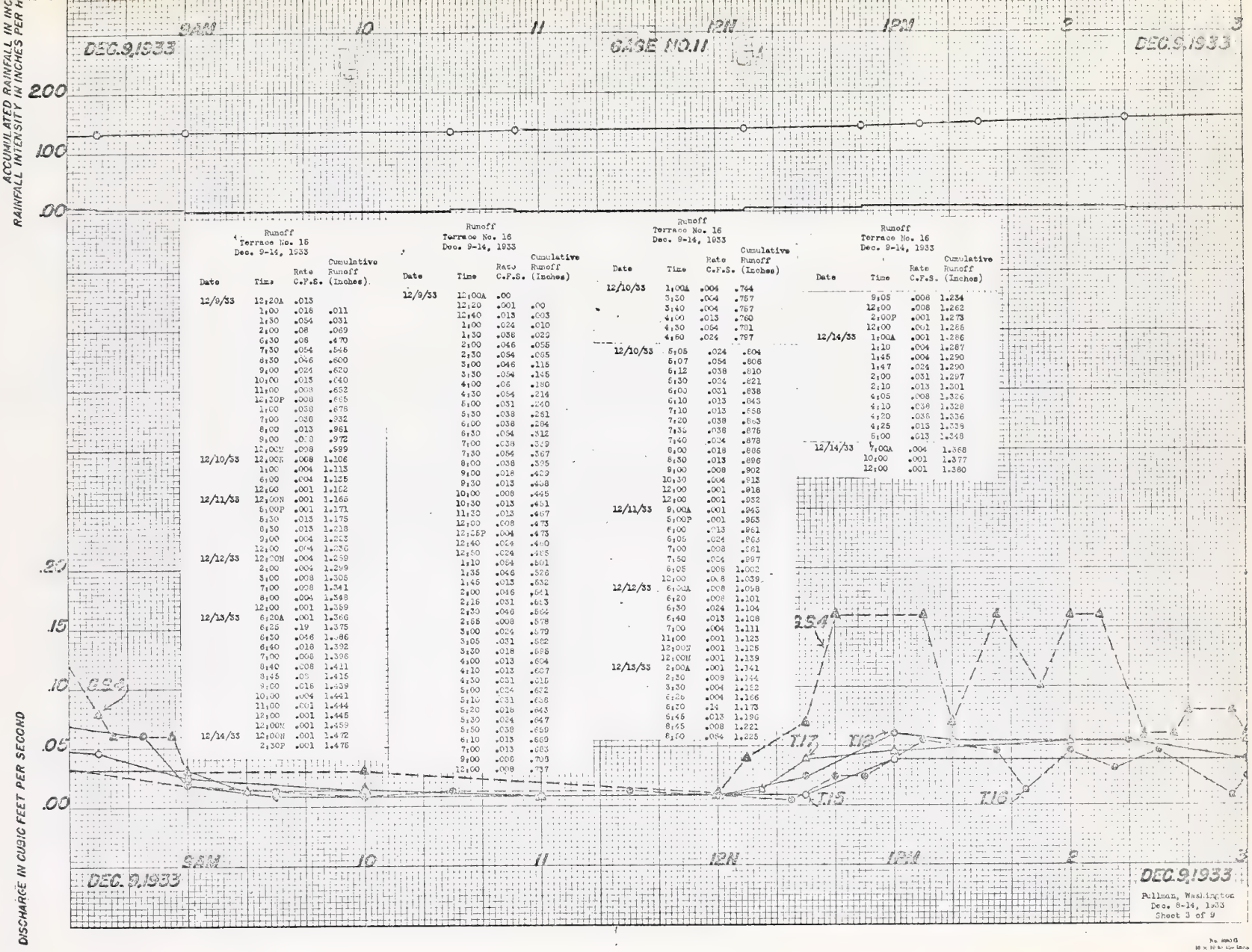
Sheet 1 of 9



Pullman, Washington
Dec. 8-14, 1933
Sheet 2 of 9



Runoff
Terrace No. 16
Dec. 9-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/9/33	12:20A	.013	
	1:00	.018	.011
	1:30	.054	.031
	2:00	.08	.069
	6:30	.08	.470
	7:30	.054	.546
	8:30	.046	.600
	9:00	.024	.620
	10:00	.013	.640
	11:00	.008	.652
	12:30P	.008	.665
	1:00	.038	.678
	7:00	.038	.832
	8:00	.013	.861
	9:00	.038	.972
	12:00M	.008	.999
12/10/33	12:00N	.008	1.106
	1:00	.004	1.113
	6:00	.004	1.125
	12:00	.001	1.162
12/11/33	12:00N	.001	1.166
	5:00P	.001	1.171
	5:30	.013	1.175
	8:30	.013	1.218
	9:00	.004	1.223
	12:00	.004	1.236
12/12/33	12:00M	.004	1.259
	2:00	.004	1.299
	3:00	.008	1.305
	7:00	.008	1.341
	8:00	.004	1.348
	12:00	.001	1.359
12/13/33	6:20A	.001	1.366
	6:25	.19	1.375
	6:30	.046	1.386
	6:40	.018	1.392
	7:00	.008	1.396
	8:40	.008	1.411
	8:45	.05	1.415
	9:00	.016	1.439
	10:00	.004	1.441
	11:00	.001	1.444
	12:00	.001	1.445
	12:00M	.001	1.459
12/14/33	12:00N	.001	1.472
	2:30P	.001	1.476

Runoff
Terrace No. 16
Dec. 9-14, 1933

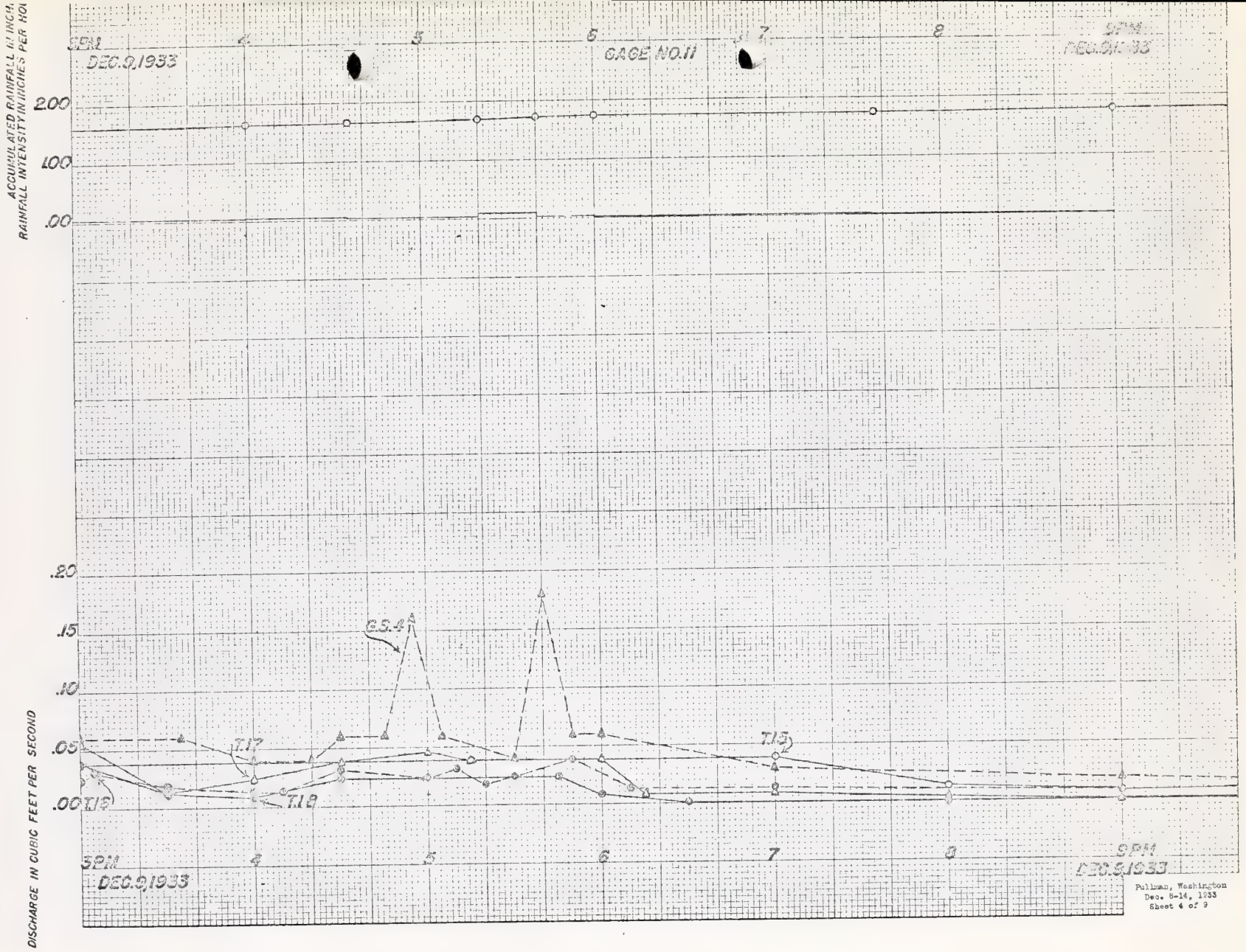
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/9/33	12:00A	.00	
	12:20	.001	.00
	12:40	.013	.003
	1:00	.024	.010
	1:30	.038	.022
	2:00	.046	.055
	2:30	.054	.065
	3:00	.046	.115
	3:30	.054	.145
	4:00	.06	.180
	4:30	.054	.214
	5:00	.031	.240
	5:30	.038	.261
	6:00	.038	.284
	6:30	.054	.312
	7:00	.038	.349
	7:30	.054	.367
	8:00	.038	.385
	9:00	.018	.429
	9:30	.013	.448
	10:00	.008	.445
	10:30	.013	.451
	11:30	.013	.467
	12:00	.008	.473
	12:25P	.004	.473
	12:40	.024	.460
	12:50	.024	.465
	1:10	.024	.501
	1:35	.046	.526
	1:45	.013	.532
	2:00	.046	.541
	2:15	.031	.553
	2:30	.046	.564
	2:55	.008	.578
	3:00	.024	.579
	3:05	.031	.582
	3:30	.018	.585
	4:00	.013	.604
	4:10	.013	.607
	4:30	.031	.615
	5:00	.024	.632
	5:15	.031	.638
	5:20	.018	.643
	5:30	.024	.647
	5:50	.038	.659
	6:10	.013	.669
	7:00	.013	.683
	9:00	.008	.709
	12:00	.008	.737

Runoff
Terrace No. 16
Dec. 9-14, 1933

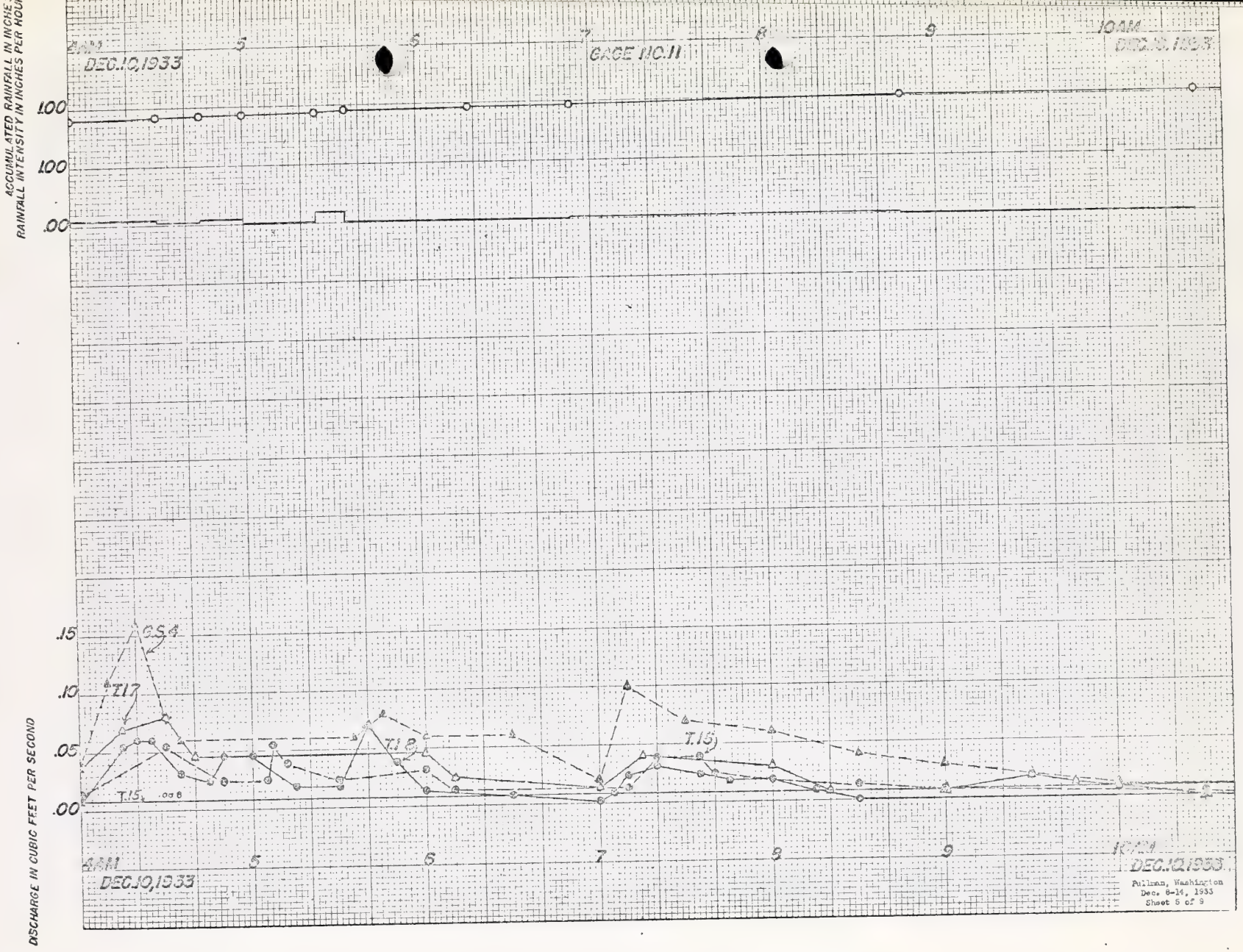
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/10/33	1:00A	.004	.744
	3:30	.004	.757
	3:40	.004	.757
	4:00	.013	.760
	4:30	.064	.781
	4:50	.024	.797
12/10/33	5:05	.024	.804
	5:07	.054	.806
	6:12	.038	.810
	5:30	.024	.821
	6:00	.031	.838
	6:10	.013	.843
	7:10	.013	.858
	7:20	.038	.863
	7:30	.038	.875
	7:40	.024	.878
	8:00	.018	.886
	8:30	.013	.896
	9:00	.008	.902
	10:30	.004	.913
	12:00	.001	.918
	12:00	.001	.932
12/11/33	9:00A	.001	.943
	5:00P	.001	.953
	6:00	.013	.961
	6:05	.024	.963
	7:00	.008	.981
	7:50	.024	.997
	8:05	.008	1.002
	12:00	.008	1.039
12/12/33	6:00A	.008	1.058
	6:20	.008	1.101
	6:30	.024	1.104
	6:40	.013	1.108
	7:00	.004	1.111
	11:00	.001	1.123
	12:00N	.001	1.125
	12:00M	.001	1.139
12/13/33	2:00A	.001	1.141
	2:30	.008	1.144
	3:30	.004	1.152
	6:25	.004	1.166
	6:30	.14	1.173
	6:45	.013	1.196
	8:45	.008	1.222
	8:50	.004	1.225

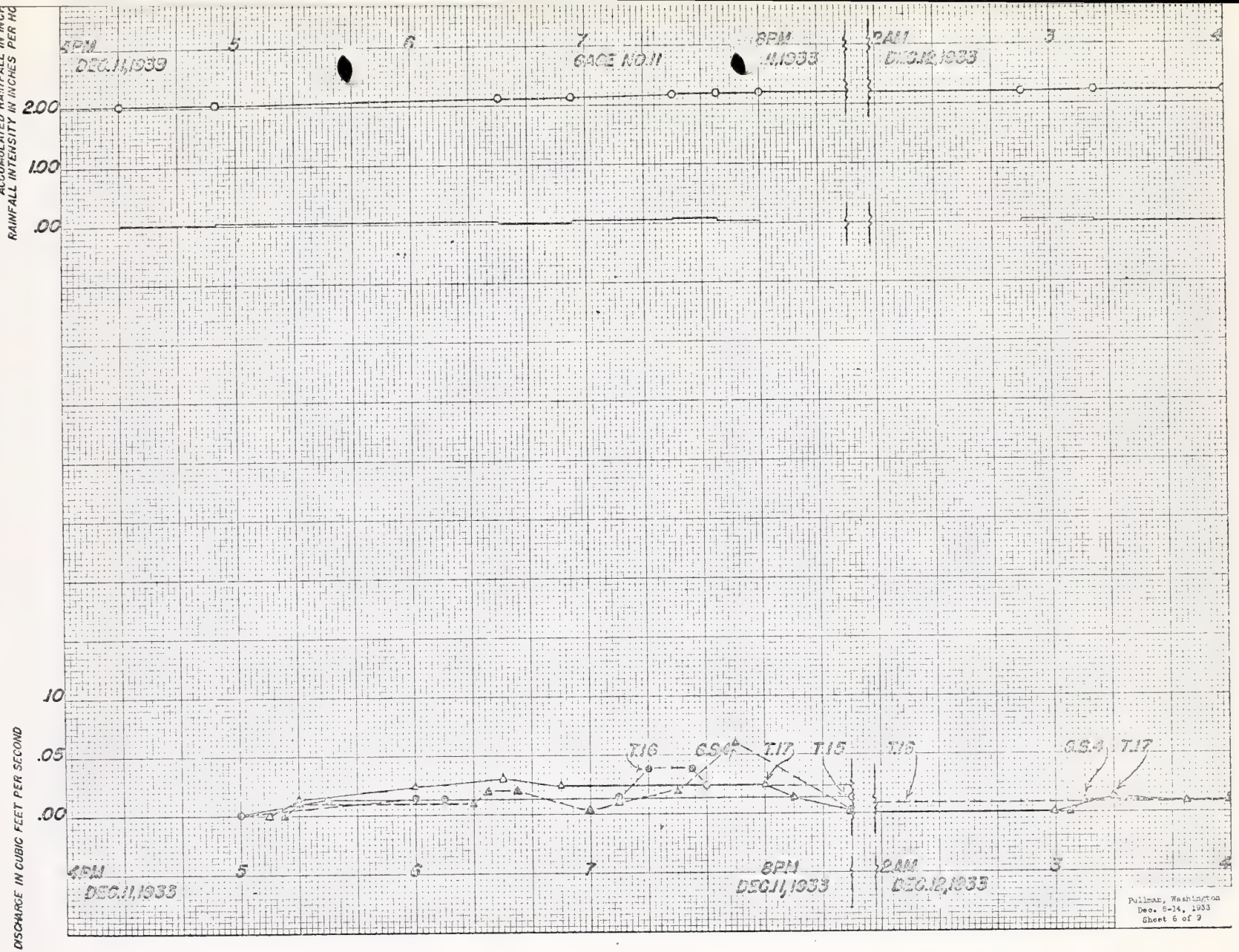
Runoff
Terrace No. 16
Dec. 9-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
	9:05	.008	1.234
	12:00	.008	1.262
	2:00P	.001	1.273
	12:00	.001	1.286
12/14/33	1:00A	.001	1.286
	1:10	.004	1.287
	1:45	.004	1.290
	1:47	.024	1.290
	2:00	.031	1.297
	2:10	.013	1.301
	4:05	.008	1.326
	4:10	.038	1.328
	4:20	.036	1.336
	4:25	.013	1.338
	6:00	.013	1.348
12/14/33	7:00A	.004	1.368
	10:00	.001	1.377
	12:00	.001	1.380

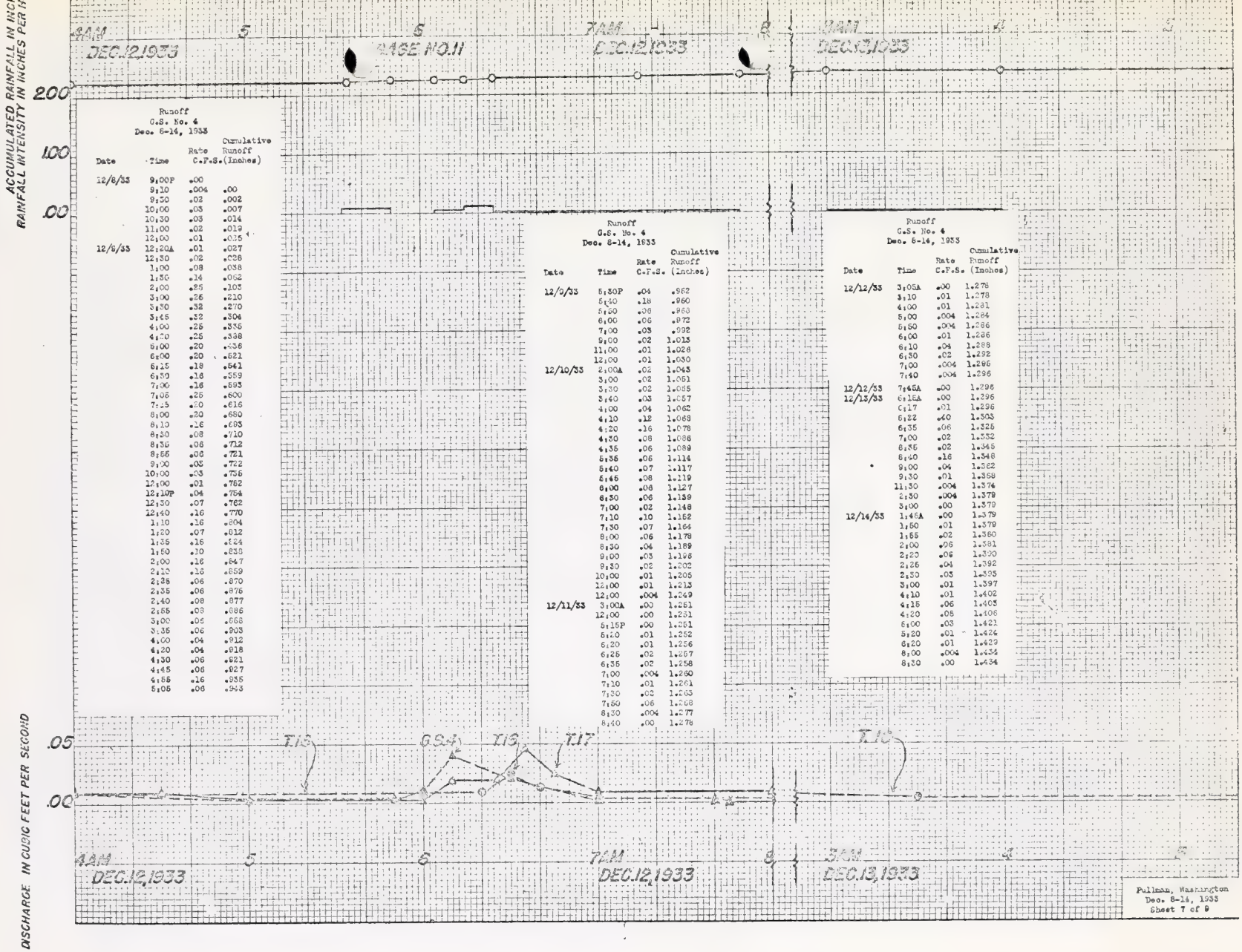


Pullman, Washington
Dec. 8-14, 1933
Sheet 4 of 9


ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HOUR
DISCHARGE IN CUBIC FEET PER SECOND
4AM
DEC.10,1933
5
6
7
8
9
10AM
GAGE NO.11
1.00
.00
.15
.10
.05
G.S.4
T.17
T.18
T.15
.008
Pullman, Washington
Dec. 8-14, 1933
Sheet 5 of 9



Pullman, Washington
Dec. 8-14, 1933
Sheet 6 of 9



Runoff
G.S. No. 4
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/8/33	9:00P	.00	
	9:10	.004	.00
	9:30	.02	.002
	10:00	.03	.007
	10:30	.03	.014
	11:00	.02	.019
	12:00	.01	.025
12/9/33	12:20A	.01	.027
	12:30	.02	.028
	1:00	.08	.038
	1:30	.14	.062
	2:00	.25	.103
	3:00	.26	.210
	3:30	.32	.270
	3:45	.32	.304
	4:00	.25	.335
	4:20	.25	.338
	5:00	.20	.436
	6:00	.20	.521
	6:15	.18	.541
	6:30	.16	.559
	7:00	.16	.593
	7:05	.25	.600
	7:15	.20	.616
	8:00	.20	.660
	8:10	.16	.693
	8:30	.08	.710
	8:35	.06	.712
	8:55	.06	.721
	9:00	.05	.722
	10:00	.03	.736
	12:00	.01	.762
	12:10P	.04	.764
	12:30	.07	.762
	12:40	.16	.770
	1:10	.16	.804
	1:20	.07	.812
	1:35	.16	.824
	1:50	.10	.838
	2:00	.16	.847
	2:10	.16	.859
	2:25	.06	.870
	2:35	.06	.876
	2:40	.08	.877
	2:55	.03	.886
	3:00	.06	.888
	3:35	.06	.903
	4:00	.04	.912
	4:20	.04	.918
	4:30	.06	.921
	4:45	.06	.927
	4:55	.16	.935
	5:05	.06	.943

Runoff
G.S. No. 4
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/9/33	5:30P	.04	.952
	5:40	.18	.960
	5:50	.06	.963
	6:00	.06	.972
	7:00	.03	.992
	9:00	.02	1.013
	11:00	.01	1.028
	12:00	.01	1.030
12/10/33	2:00A	.02	1.043
	3:00	.02	1.051
	3:30	.02	1.055
	3:40	.03	1.057
	4:00	.04	1.062
	4:10	.12	1.068
	4:20	.16	1.078
	4:30	.08	1.086
	4:35	.06	1.089
	5:35	.06	1.114
	5:40	.07	1.117
	5:46	.08	1.119
	6:00	.08	1.127
	6:30	.06	1.139
	7:00	.02	1.148
	7:10	.10	1.152
	7:30	.07	1.164
	8:00	.06	1.178
	8:30	.04	1.189
	9:00	.03	1.198
	9:30	.02	1.202
	10:00	.01	1.205
	12:00	.01	1.213
	12:00	.004	1.249
12/11/33	3:00A	.00	1.251
	12:00	.00	1.251
	5:15P	.00	1.251
	5:20	.01	1.252
	5:20	.01	1.256
	6:25	.02	1.257
	6:35	.02	1.258
	7:00	.004	1.260
	7:10	.01	1.261
	7:30	.02	1.263
	7:50	.06	1.268
	8:30	.004	1.277
	8:40	.00	1.278

Runoff
G.S. No. 4
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/12/33	3:05A	.00	1.278
	3:10	.01	1.278
	4:00	.01	1.281
	5:00	.004	1.284
	5:50	.004	1.286
	6:00	.01	1.286
	6:10	.04	1.288
	6:30	.02	1.292
	7:00	.004	1.295
	7:40	.004	1.296
12/12/33	7:45A	.00	1.296
12/13/33	6:15A	.00	1.296
	6:17	.01	1.296
	6:22	.40	1.303
	6:35	.06	1.325
	7:00	.02	1.332
	8:35	.02	1.345
	8:40	.18	1.348
	9:00	.04	1.362
	9:30	.01	1.368
	11:30	.004	1.374
	2:30	.004	1.379
	3:00	.00	1.379
12/14/33	1:45A	.00	1.379
	1:50	.01	1.379
	1:55	.02	1.380
	2:00	.06	1.381
	2:20	.06	1.390
	2:25	.04	1.392
	2:30	.03	1.395
	3:00	.01	1.397
	4:10	.01	1.402
	4:15	.06	1.403
	4:20	.08	1.406
	5:00	.03	1.421
	5:20	.01	1.424
	6:20	.01	1.429
	8:00	.004	1.434
	8:30	.00	1.434

Pullman, Washington
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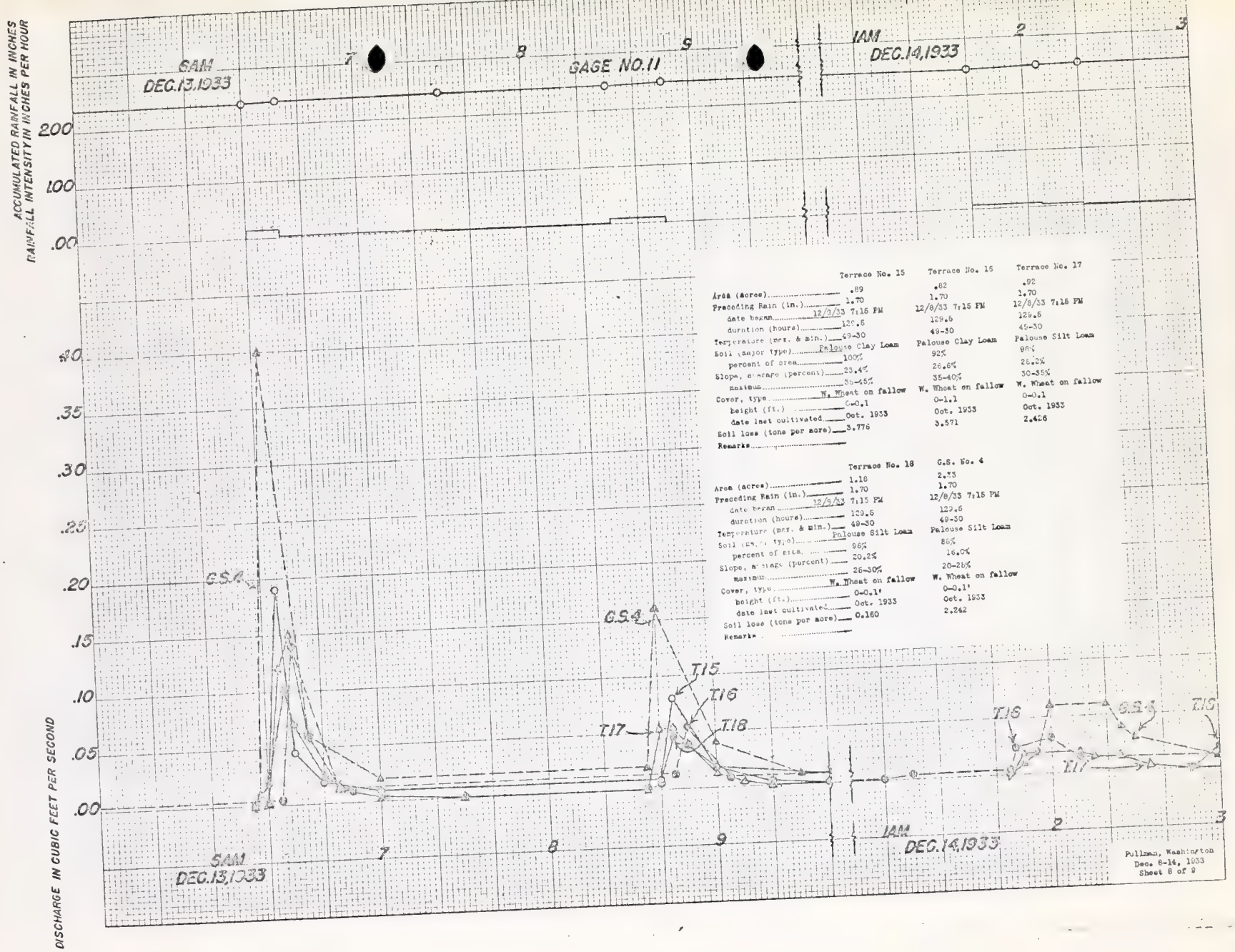
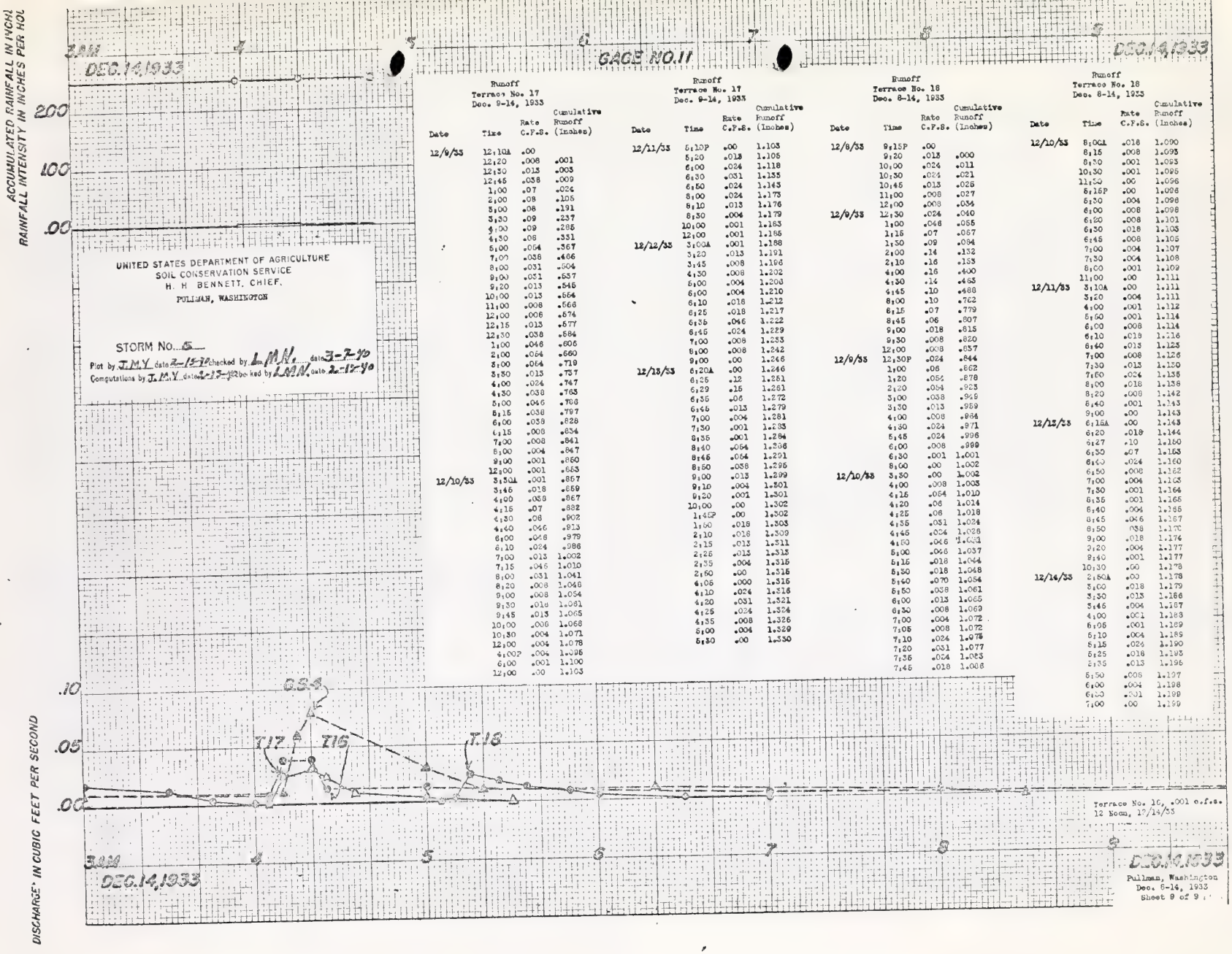


	Terrace No. 15	Terrace No. 16	Terrace No. 17
Area (acres)	.89	.82	.92
Preceding Rain (in.)	1.70	1.70	1.70
date began	12/8/33 7:15 PM	12/8/33 7:15 PM	12/8/33 7:15 PM
duration (hours)	129.6	129.6	129.6
Temperature (max. & min.)	49-30	49-30	49-30
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam	Palouse Silt Loam
percent of area	100%	92%	90%
Slope, average (percent)	23.4%	26.6%	26.2%
maximum	30-45%	35-40%	30-35%
Cover, type	W. Wheat on fallow	W. Wheat on fallow	W. Wheat on fallow
height (ft.)	0-0.1	0-1.1	0-0.1
date last cultivated	Oct. 1933	Oct. 1933	Oct. 1933
Soil loss (tons per acre)	3.776	3.571	2.426
Remarks			

	Terrace No. 18	G.S. No. 4
Area (acres)	1.10	2.33
Preceding Rain (in.)	1.70	1.70
date began	12/8/33 7:15 PM	12/8/33 7:15 PM
duration (hours)	129.6	129.6
Temperature (max. & min.)	49-30	49-30
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	96%	86%
Slope, average (percent)	20.2%	16.0%
maximum	26-30%	20-26%
Cover, type	W. Wheat on fallow	W. Wheat on fallow
height (ft.)	0-0.1'	0-0.1'
date last cultivated	Oct. 1933	Oct. 1933
Soil loss (tons per acre)	0.160	2.242
Remarks		



Runoff
Terrace No. 17
Dec. 9-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/9/33	12:10A	.00	
	12:20	.008	.001
	12:30	.013	.003
	12:45	.038	.009
	1:00	.07	.024
	2:00	.08	.105
	3:00	.08	.191
	3:30	.09	.237
	4:00	.09	.285
	4:30	.08	.331
	5:00	.064	.367
	7:00	.038	.466
	8:00	.031	.504
	9:00	.031	.537
	9:20	.013	.545
	10:00	.013	.564
	11:00	.008	.566
	12:00	.008	.574
	12:15	.013	.577
	12:30	.038	.584
	1:00	.046	.606
	2:00	.064	.660
	3:00	.064	.719
	3:30	.013	.737
	4:00	.024	.747
	4:30	.038	.763
	5:00	.046	.780
	5:15	.038	.797
	6:00	.038	.828
	6:15	.008	.834
	7:00	.008	.841
	8:00	.004	.847
	9:00	.001	.850
	12:00	.001	.853
12/10/33	3:30A	.001	.857
	3:45	.018	.859
	4:00	.038	.867
	4:15	.07	.882
	4:30	.08	.902
	4:40	.046	.913
	6:00	.048	.979
	6:10	.024	.986
	7:00	.013	1.002
	7:15	.046	1.010
	8:00	.031	1.041
	8:20	.008	1.048
	9:00	.008	1.054
	9:30	.018	1.061
	9:45	.013	1.065
	10:00	.006	1.068
	10:30	.004	1.071
	12:00	.004	1.078
	4:00P	.004	1.095
	6:00	.001	1.100
	12:00	.00	1.103

Runoff
Terrace No. 17
Dec. 9-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/11/33	5:10P	.00	1.103
	5:20	.013	1.105
	6:00	.024	1.118
	6:30	.031	1.135
	6:50	.024	1.143
	8:00	.024	1.173
	8:10	.013	1.176
	8:30	.004	1.179
	10:00	.001	1.183
	12:00	.001	1.185
12/12/33	3:00A	.001	1.188
	3:20	.013	1.191
	3:45	.008	1.196
	4:30	.008	1.202
	5:00	.004	1.208
	6:00	.004	1.210
	6:10	.018	1.212
	6:25	.018	1.217
	6:35	.046	1.222
	6:45	.024	1.229
	7:00	.008	1.233
	8:00	.008	1.242
	9:00	.00	1.246
12/13/33	6:20A	.00	1.246
	6:25	.12	1.261
	6:29	.16	1.261
	6:35	.06	1.272
	6:45	.013	1.279
	7:00	.004	1.281
	7:30	.001	1.283
	8:35	.001	1.284
	8:40	.064	1.286
	8:45	.064	1.291
	8:50	.038	1.295
	9:00	.013	1.299
	9:10	.004	1.301
	9:20	.001	1.301
	10:00	.00	1.302
	1:45P	.00	1.302
	1:00	.018	1.303
	2:10	.018	1.309
	2:15	.013	1.311
	2:25	.013	1.313
	2:35	.004	1.315
	2:50	.00	1.315
	4:05	.000	1.315
	4:10	.024	1.316
	4:20	.031	1.321
	4:25	.024	1.324
	4:35	.008	1.326
	5:00	.004	1.329
	5:30	.00	1.330

Runoff
Terrace No. 18
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/8/33	9:15P	.00	
	9:20	.013	.000
	10:00	.024	.011
	10:30	.024	.021
	10:45	.013	.026
	11:00	.008	.027
	12:00	.008	.034
12/9/33	12:30	.024	.040
	1:00	.048	.055
	1:15	.07	.067
	1:30	.09	.084
	2:00	.14	.132
	2:10	.16	.153
	4:00	.16	.400
	4:30	.14	.463
	4:45	.10	.488
	8:00	.10	.762
	8:15	.07	.779
	8:45	.06	.807
	9:00	.018	.815
	9:30	.008	.820
	12:00	.008	.837
12/9/33	12:30P	.024	.844
	1:00	.06	.862
	1:20	.054	.878
	2:20	.054	.923
	3:00	.038	.949
	3:30	.013	.959
	4:00	.008	.964
	4:30	.024	.971
	5:45	.024	.996
	6:00	.008	.999
	6:30	.001	1.001
	8:00	.00	1.002
12/10/33	3:30	.00	1.002
	4:00	.008	1.003
	4:15	.054	1.010
	4:20	.06	1.014
	4:25	.08	1.018
	4:35	.031	1.024
	4:45	.024	1.028
	4:50	.046	1.033
	5:00	.046	1.037
	5:15	.018	1.044
	5:30	.018	1.048
	5:40	.070	1.054
	5:50	.038	1.061
	6:00	.013	1.065
	6:30	.008	1.069
	7:00	.004	1.072
	7:05	.008	1.072
	7:10	.024	1.076
	7:20	.031	1.077
	7:35	.024	1.083
	7:45	.018	1.088

Runoff
Terrace No. 18
Dec. 8-14, 1933

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/10/33	8:00A	.018	1.090
	8:15	.008	1.093
	8:50	.001	1.093
	10:30	.001	1.095
	11:00	.00	1.096
	5:15P	.00	1.096
	5:30	.004	1.098
	6:00	.008	1.098
	6:20	.008	1.101
	6:30	.018	1.103
	6:45	.008	1.105
	7:00	.004	1.107
	7:30	.004	1.108
	8:00	.001	1.109
	11:00	.00	1.111
12/11/33	3:10A	.00	1.111
	3:20	.004	1.111
	4:00	.001	1.112
	5:50	.001	1.114
	6:00	.008	1.114
	6:10	.018	1.116
	6:40	.013	1.123
	7:00	.008	1.126
	7:30	.013	1.130
	7:50	.024	1.135
	8:00	.018	1.138
	8:20	.008	1.142
	8:40	.001	1.143
	9:00	.00	1.143
12/12/33	6:15A	.00	1.143
	6:20	.018	1.144
	6:27	.10	1.150
	6:30	.07	1.153
	6:40	.024	1.160
	6:50	.008	1.162
	7:00	.004	1.163
	7:30	.001	1.164
	8:35	.001	1.165
	8:40	.004	1.166
	8:45	.046	1.167
	8:50	.038	1.170
	9:00	.018	1.174
	9:20	.004	1.177
	9:40	.001	1.177
	10:30	.00	1.178
12/14/33	2:50A	.00	1.178
	3:00	.018	1.179
	3:30	.013	1.186
	3:45	.004	1.187
	4:00	.001	1.188
	5:05	.001	1.189
	5:10	.004	1.189
	5:15	.024	1.190
	5:25	.018	1.193
	5:35	.013	1.196
	5:50	.008	1.197
	6:00	.004	1.198
	6:30	.001	1.199
	7:00	.00	1.199

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Month January, 1934

Sheet 1 of 10 sheets

Project Pullman, Washington

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F) Maximum	Temperature (degrees F) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January									
1/1/34			2	12:30A	210	0.05	0.12	0.08	0.06	44	36								Cover for G.S. 2 Jan. 1 -
1/1/34			2	4:10P	170	0.03	0.04	0.04	0.02										May 1, 25.2 acres winter wheat
1/1-2/34	G.S. 2	68.2								46	36	12:01A	3:30P	0.10	0.16	Continuous		0.002	45. " " "
	G.S. 5	14.4										12:01A	3:30P	0.04	0.02	"		0.000	stubble.
	G.S. 6	15.2										12:01A	4:30P	0.12	0.04	"		0.003	G.S. 5 - winter wheat stubble,
																			.75-1.5 ft. tall. Harvested
1/1/34			11	1:30A	240	0.05	0.12	0.08	0.06	44	36								in Aug. 1933.
			11	4:45A	100	0.03	0.04	0.04	0.02										G.S. 6 - winter wheat or fallow
1/1-2/34	Ter. 15	.98								46	36	12:01A	4:00P	0.08	0.004	4 PM(2)		0.579	0.0' to 0.1' tall, planted
	Ter. 16	.82										12:01A	3:30P	0.04	0.001	3:30P(2)		0.024	Oct. 1933.
	Ter. 17	.92										12:01A	4:00P	0.03	0.001	12P(1)		0.017	
	Ter. 18	1.18											No runoff						Terraces 15, 16, 17 and 18, and
	G.S. 4	2.33										1:30A	3:30P	0.02	0.02	3:35P(1)		0.001	G.S. 4 - winter wheat on fallow.
*1/2-3/34	G.S. 2		2	3:30P	900	0.55	0.24	0.20	0.16	46	37	3:30P	6 P	0.24	6.00	4:20A(3)	0.31	0.174	Jan. 1 - snow all gone with
	G.S. 5											3:30P	12 P	0.08	0.23	4:40A(3)	0.47	0.001	rain of Jan. 1, 1934.
	G.S. 6											4:30P	12 P	0.28	2.13	4:12A(3)	0.27	0.137	
	Ter. 15		11	3:20P	1165	0.59	0.24	0.20	0.20			4:00P	12 P	0.32	0.18	3:40A(3)	0.33	0.945	
	Ter. 16											3:30P	12 P	0.28	0.14	3:42A(3)	0.31	0.539	
	Ter. 17											4:00P	12 P	0.27	0.16	3:40A(3)	0.32	0.432	
	Ter. 18											4:10P	8:20A	0.19	0.18	3:25A(3)	0.40	0.199	
	G.S. 4											3:30P	12 P	0.32	0.43	3:33A(3)	0.27	0.512	
1/6/34			2	11:30P	30	0.03	0.06	0.06	0.06	44	38								
1/10/34			2	9:55A	20	0.03	0.12	0.08	0.06	38	32								
1/12/34			2	2:00P	130	0.04	0.06	0.04	0.04	39	29								
1/3-13/34	G.S. 2									46	27	12:00P	3:20A	0.44	0.71	12:20A(5)		0.014	Jan. 3-13, runoff of continuous
	G.S. 5											12:00P	12:01A	0.19	0.02	12:00P(5)		0.002	nature, mostly ground water.
	G.S. 6											12:00P	3:20A	0.18	0.25	12:05A(5)		0.004	Rains on Jan. 4-10-12 contri-
1/3-5/34	Ter. 15									46	38	12:00P	7:00A	0.03	0.031	11:55P(4)		0.006	buted slightly.
	Ter. 16											12:00P	2:00P	0.05	0.024	11:55P(4)		0.008	
1/4-5/34	Ter. 17									45	38	11:30P	1:30A	0.02	0.038	11:50P(4)		0.013	
	Ter. 18											11:40P	1:10A	0.01	0.031	11:55P(4)		0.002	
1/3-5/34	G.S. 4									46	38	12:00P	7:00P	0.05	0.031	11:55P(4)		0.007	
*1/13/34	G.S. 2		2	3:20A	850	0.31	0.20	0.20	0.14	44	31	12:01A	12:00P	0.11	1.11	5:00P	0.20	0.004	
	G.S. 5											24 hours		0.01	0.004	Constant	0.30	0.000	
	G.S. 6											3:20A	12:00P	0.07	0.49	4:30P	0.24	0.004	
	Ter. 15		11	3:15A	835	0.31	0.24	0.24	0.12			10:30A	12:00P	0.10	0.031	4:30P	0.21	0.131	
	Ter. 16											3:00P	12:00P	0.02	0.024	4:45P	0.29	0.082	
	Ter. 17													0.02			0.29	0.018	Measured in silt box.
	Ter. 18													0.01			0.30	0.006	" " " "
	G.S. 4											2:00P	10:10P	0.08	0.12	4:35P	0.23	0.374	

* Storms for which graphs were prepared.

Form S. C. S.-343

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Month January, 1934

Project Pullman, Washington

Sheet 2 of 10 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum	Temperature Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January (Continued)									January - March
1/13-15/34	G.S.2	68.2								44	27	12:00P	12:00P	0.08	0.20	12:00M(14)		0.003	The precipitation was about 1.3 inches below normal but there was moderate runoff in January due to the saturated condition following the heavy rains of December.
	G.S.5	14.4										12:00P	12:00P	0.02	0.01	Continuous		0.000	
	G.S.6	15.2										12:00P	12:00P	0.06	0.06	6:00P(15)		0.001	
	Tor.15	.98										12:00P	12:00P	0.04	0.001	Continuous		0.018	
	Tor.16	.82											No runoff						
	Tor.17	.92											"	"					
	Tor.18	1.18											"	"					
	G.S.4	2.32											"	"					
1/16-17/34	G.S.2		2	7:30A	1080	0.39	0.24	0.16	0.10	44	31	48 hours		0.16	0.93	1:30A(17)		0.041	
	G.S.5		11	7:30A	1080	0.39	0.48	0.20	0.14			48	"	0.01	0.01	Continuous		0.000	
	G.S.6											48	"	0.19	0.46	10:20P(16)		0.013	
	Tor.15											48	"	0.20	0.026	12:50A(17)		0.093	
	Tor.16											12:30P	12:00M	0.05	0.013	12:50A(17)		0.037	
	Tor.17											12:30A	2:30P	0.10	0.039	12:55A(17)		0.057	
	Tor.18											9:05A	7:00A	0.07	0.024	12:45A(17)		0.042	
	G.S.4											12:30A	3:00A	0.06	0.04	12:50A(17)		0.072	
1/18/34	G.S.2									46	32	24 hours		0.07	0.10	Continuous		0.025	
	G.S.5											24	"	0.03	0.02	"		0.000	
	G.S.6											24	"	0.08	0.06	"		0.001	
	Tor.15											24	"	0.03	0.004	12:01A		0.014	
	Tor.16												No runoff						
	Tor.17												"	"					
	Tor.18												"	"					
	G.S.4												"	"					
1/19/34	G.S.2		2	8:35A	325	0.15	0.12	0.08	0.08	46	39	24 hours		0.07	0.68	9:00A		0.001	
	G.S.5		11	8:40A	330	0.15	0.12	0.08	0.06			24	"	0.05	0.06	11:00A		0.000	
	G.S.6											24	"	0.08	0.32	8:20A		0.006	
	Tor.15											24	"	0.09	0.018	8:15A		0.047	
	Tor.16											6:45A	12:00P	0.06	0.018	8:30A		0.026	
	Tor.17											6:45A	12:00P	0.03	0.031	9:05A		0.050	
	Tor.18											6:50A	11:30A	0.04	0.024	9:05A		0.016	
	G.S.4											7:00A	10:15A	0.02	0.03	9:00A		0.012	
1/20/34	G.S.2									46	36	24 hours		0.04	0.13	Continuous		0.002	
	G.S.5											24	"	0.03	0.02	"		0.000	
	G.S.6											24	"	0.03	0.03	12:00M		0.000	
	Tor.15											24	"	0.06	0.004	12:01A		0.023	
	Tor.16											24	"	0.02	0.001	Continuous		0.008	
	Tor.17											24	"	0.02	0.001	"		0.012	
	Tor.18												No runoff						
	G.S.4												"	"					

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month January-February, 1934.

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Sheet 3 of 10 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum	Temperature Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January (Continued)									
1/21/34	G.S. 2	68.2	2	2:45A	50	0.04	0.12	0.08	0.04	46	34	24 hours		0.06				0.002	
	G.S. 5	14.4										24 "		0.03				0.000	
	G.S. 6	15.2										24 "		0.03				0.001	
	Ter.15	.98	11	2:45A	50	0.04	0.08	0.08	0.04			24 "		0.02	0.001	Continuous		0.004	
	Ter.16	.82										24 "		0.03	0.02	3:15A		0.014	
	Ter.17	.92										12:01A	6:00A	0.03	0.04	3:05A		0.020	
	Ter.18	1.18										2:40A	6:00A	0.01	0.02	3:05A		0.002	
	G.S. 4	2.33										2:25A	5:30A	0.02	0.06	2:45A		0.012	
*1/22-23/34	G.S.2		2	12:30A	1578	0.92	0.15	0.15	0.15	48	38	12:00P(21)	12M	0.39	5.77	2:35A(23)	0.53	0.915	
	G.S.5											12:00P(21)	12M	0.14	0.23	3:00A(23)	0.78	0.001	
	G.S.6											12:00P(21)	12M	0.58	3.35	1:09A(23)	0.34	1.224	
	Ter.15		11	12:45A	1605	0.98	0.27	0.15	0.14			12:00P(21)	12M	0.55	0.14	1:00A(23)	0.43	3.051	
	Ter.16											12:00P(21)	9P	0.42	0.10	2:27A(23)	0.58	2.179	
	Ter.17											3:30A	7:00A	0.39	0.16	2:08A(23)	0.39	1.930	
	Ter.18											3:30A	8:00A	0.53	0.18	2:20A(23)	0.45	0.700	
	G.S.4											3:50A	6:30A	0.50	0.35	2:10A(23)	0.48	1.329	
1/24/34			2			0.01				33	26								
1/25/34			2	1:45P	90	0.05	0.06	0.04	0.04	46	27								
1/23-31/34	G.S.2									52	26	12:00M	12:00P	0.53	0.31	7:00P(25)		0.061	
	G.S.5											12:00M	12:00P	0.37	0.04	12:00M(23)		0.003	
	G.S.6											12:00M	12:00P	0.19	0.02	12:00M(23)		0.057	
1/23-27/34	Ter.16									52	26	12:00M	12:00P	0.10	0.004	9:30A(23)		0.118	
	Ter.18											9:00P	2:00P	0.05	0.001	12:00M(25)		0.065	
1/23-31/34	Ter.17											7:00A	12:00P	No runoff					
1/23-31/34	Ter.19											8:00A	12:00P	"	"				
1/23-31/34	G.S.4									52	26	6:30A	12:00P	"	"				
										February									
2/1/34			2			0.02				53	37								
2/1-4/34	G.S.2									54	29	96 hours		0.17	0.13	12:00M(2)		0.002	
	G.S.5											96 "		0.13	0.02	12:00M(2)		0.001	
	G.S.6											96 "		0.02	0.006	Continuous		0.001	
									Terraces 15, 16, 17, 18 and G.S. 4 - no runoff.										
2/5/34	G.S.2		2	12:20P	40	0.04	0.12	0.08	0.06	40	34	24 hours		0.04	0.11	Continuous		0.000	
	G.S.5											24 "		0.03	0.01	"		0.000	
	G.S.6											24 "		0.01	0.006	"		0.000	

*Storms for which graphs were prepared.

Form S. C. S.-343

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month February-March, 1934

Project Pullman, Washington

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Sheet 4 of 10 sheets

Date	Watershed		Rainfall				Maximum Intensity			Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu ft. sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										February (Continued)									
2/8-26/34	G.S.2	68.2								55	26	504	hours	0.61				0.000	Mostly ground water.
	G.S.5	14.4										504	"	0.45				0.003	" " "
	G.S.6	15.2										504	"	0.15				0.003	" " "
2/7/34			2	3:00P	60	0.01				49	37								
2/8/34			2	5:00P	15	0.01	0.04	0.04	0.02	43	36								
2/26-27/34	G.S.2	68.2	2	6:45P	990	0.24	0.12	0.12	0.08	46	29	12:00P	12:00P	0.04	0.34	10:00A		0.001	
	G.S.5	14.4										12:00P	12:00P	0.05	0.03	Continuous		0.001	
	G.S.6	15.2										12:00P	12:00P	0.01	0.004	"		0.001	
2/27/34	G.S.4	2.33								46	29	7:40A	4:00P	0.03	0.01	12:00M		0.005	
												Terraces 15, 16, 17 and 18, no runoff.							
2/28-3/1	G.S.2		2	7:40P	320	0.20	0.06	0.06	0.06	50	32	12:00P	4:00P	0.06	0.23	10:00A	(1)	0.001	
	G.S.5											12:00P	12:00M	0.05	0.02	12:00M	(1)	0.000	
	G.S.6											12:00P	12:00M	0.01	0.004	12:00P	(1)	0.000	
	Ter.15	.98											No runoff						
	Ter.16	.82											"	"					
	Ter.17	.92											"	"					
	Ter.18	1.18												0.01				0.000	Measured in silt box.
	G.S.4	2.33											No runoff						
										March									
*3/1-2/34	G.S.2		2	3:00P	850	0.77	0.36	0.24	0.16	50	38	4:00P	12:00M	0.21	4.11	10:35P	(1) 0.56	0.149	
	G.S.5											12:00M	12:00M	0.08	0.13	10:30P	(1) 0.69	0.004	
	G.S.6											12:00M	12:00M	0.21	1.07	10:52P	(1) 0.56	0.148	
	Ter.15		11	2:45P	875	0.76	0.32	0.28	0.20			7:00P	10:30A	0.15	0.038	10:30P	(1) 0.62	0.226	
	Ter.16											8:15P	7:00A	0.17	0.054	10:30P	(1) 0.60	0.402	
	Ter.17											8:20P	6:30A	0.14	0.09	10:15P	(1) 0.63	0.271	
	Ter.18											6:25P	7:00A	0.22	0.14	10:10P	(1) 0.55	0.108	
	G.S.4											5:50P	8:00A	0.35	0.35	10:25P	(1) 0.42	0.408	
3/2-4/34	G.S.2									49	33	12:00M	12:00M	0.06	0.08	Continuous		0.001	
	G.S.5											12:00M	12:00P	0.17	0.02	"		0.002	
	G.S.6											12:00M	12:00M	0.03	0.01	"		0.001	
	Ter.15											10:30A	12:00P	0.02	0.004	12:00P	(4)	0.014	
	Ter.16											7:00A	12:00P	0.02	0.013	12:00P	(4)	0.004	
	Ter.17											6:30A	11:30P	No runoff				0.000	
	Ter.18											7:00A	9:50P	"	"			0.000	
	G.S.4											8:00A	11:00P	"	"			0.000	

*Storms for which graphs were prepared.

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: March-April, 1934

Sheet 5 of 10 sheets

Date	Watershed: Number	Watershed: Area (acres)	Rainfall: Gage No.	Rainfall: Began (hour)	Rainfall: Duration (minutes)	Rainfall: Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	Maximum Intensity: 15 minutes (inches per hour)	Maximum Intensity: 30 minutes (inches per hour)	Temperature (degrees F): Maximum	Temperature (degrees F): Minimum	Run-off: Began (hour)	Run-off: Ended (hour)	Run-off: Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										March (Continued)									
*3/4-5/34	G.S.2	68.2	2	8:05P	1435	0.78	0.26	0.18	0.16	47	33	12:00M	12:00P	0.26	4.30	3:45P(5)	0.52	0.263	
	G.S.5	14.4										12:00P	12:00P	0.10	0.29	4:00P(5)	0.68	0.006	
	G.S.6	15.2										12:00M	12:00P	0.27	1.70	3:28P(5)	0.51	0.380	
3/4-3/34	Ter.15	.98	11	8:15P	1425	0.79	0.29	0.29	0.29	47	33	12:00P	4:00A	0.24	0.09	3:25P(5)	0.55	0.012	
	Ter.16	.82											—	0.15	—		0.64	0.398	Estimated - clock stopped.
	Ter.17	.82											—	0.22	—		0.57	0.289	" " "
	Ter.18	1.18										9:50P	1:20A	0.36	0.16	3:40P(5)	0.43	0.208	
3/4-5/34	G.S.4	2.33								47	33	11:00P	12:00P	0.34	0.35	3:30P(5)	0.45	0.245	
3/8/34			2	1:20P	220	0.07	0.12	0.08	0.04	42	35								
3/6-6/34	G.S.2									47	33	12:00P	12:00P	0.07	0.62	4:50P(6)			
	G.S.5											12:00P	12:00P	0.07	0.04	4:50P(6)			
	G.S.6											12:00P	12:00P	0.02	0.16	4:30P(6)			
3/6/34	Ter.15									42	35	1:20P	6:00P	0.08	0.01	2:00P		0.000	
	Ter.16												—	0.02	—			0.000	Measured in silt box.
	Ter.17												—	0.02	—			0.000	" " " "
	Ter.18												—	0.01	—			0.000	" " " "
	G.S.4											1:20P	6:30P	0.03	0.01	4:20P		0.001	
3/6-27/34	G.S.2									67	24	12:00P	6:00P	0.64	0.16	10:00A(7)		0.000	Ground water.
	G.S.5											12:00P	12:00P	0.87	0.04	10:00A(7)		0.008	" "
	G.S.6											12:00P	12:00P	0.17	0.01	10:00A(7)		0.003	" "
												Terraces 15, 16, 17, 18 and G.S. 4, no runoff.							
3/27/34			2	2:30A	380	0.20	0.12	0.08	0.08	58	38								
*3/27-28/34	G.S.2		2	6:00P	725	0.67	0.30	0.16	0.14	58	38	6:00P	12:00P	0.07	0.93	6:30P(28)	0.60	0.001	
	G.S.5											12:00P	12:00P	0.08	0.08	3:00A(28)	0.59	0.002	
	G.S.6											12:00P	12:00P	0.07	0.54	5:15A(28)	0.60	0.046	
	G.S.4												—		0.02	—	0.65	0.000	Measured in silt box.
												Terraces 15, 16, 17, 18, no runoff.							
3/28/34			2	3:40P	30	0.02	0.04	0.04	0.04	57	44								
3/30/34			2	1:30A	120	0.05	0.06	0.04	0.04	53	45								
3/31/34			2	3:50P	85	0.07	0.12	0.08	0.04	49	35								
3/28-31/34	G.S.2									57	35	12:00P	12:00P	0.11	0.11	Continuous		0.000	Rain and ground water.
	G.S.5											12:00P	12:00P	0.20	0.04		"	0.002	" " " "
	G.S.6											12:00P	12:00P	0.02	0.004		"	0.001	" " " "
												Terraces 15, 16, 17, 18 and G.S. 4, no runoff.							
										April									
																			April to June, soil varied
4/1/34	G.S.2		2	12:10A	790	0.28	0.24	0.16	0.08	44	38	24 hours		0.07	0.82	6:30A		0.001	from wet to dry.
	G.S.5											24 hours		0.03	0.02	Continuous		0.000	
	G.S.6											24 hours		0.03	1.16	6:10A		0.001	

*Storms for which graphs were prepared.

Form S. C. S.-35

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month April-May-June, 1934

Project Pullman, Washington

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Sheet 6 of 10 sheets

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu ft. sec.	Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										April (Continued)									
4/1/34										Terraces 15, 16, 17, 18 and G.S. 4, no runoff.									
4/2-3/34	G.S.2	63.2	2	5:10P	(9) 110	0.06	0.04	0.04	0.04	69	30	192 hours		0.17	0.06	Continuous		0.000	Ground water.
4/2-3/34	G.S.5	14.4								69	30	168	"	0.17	0.02	5/2-5/34		0.000	" "
	G.S.6	15.2										168	"	0.05	0.004	Continuous		0.001	" "
4/10-17/34	G.S.2									73	27	192	"	0.06	0.06	12:00P(9)		0.000	" "
4/15-16/34			2	11:30P	330	0.18	0.12	0.12	0.10	60	27								
4/24/34			2	3:20P	80	0.14	0.18	0.12	0.12	54	48		No runoff.						
4/27/34			2	2:45P	140	0.14	0.18	0.16	0.10	66	44		"	"					G.S. 2 - 43 acres plowed in early April, 11 acres of which were planted to potatoes and the balance was left fallow until October. Then the potato and fallow land was planted to winter wheat.
										May									
5/1/34			2	10:05A	95	0.26	1.31	0.48	0.28	57	38		"	"					
5/2/34			2	6:50P	40	0.03	0.06	0.04	0.04	60	35		"	"					
5/6/34			2	9:00P	10	0.03	0.36	0.12	0.06	67	44		"	"					25.2 acres winter wheat, which was planted in October 1933, was harvested with combine harvester in August and went through the winter of 1934 as standing stubble.
5/7-9/34			2	4:30P	820	0.66	0.24	0.16	0.12	69	44		"	"					
5/11/34			2	5:50P	20	0.02	0.12	0.08	0.04	64	52		"	"					
5/28/34			2	7:05P	15	0.14	0.72	0.56	0.28	92	52		"	"					
5/30/34			2	4:30A	30	0.03	0.06	0.06	0.06	60	46		"	"					G.S. 5 - winter wheat stubbled, plowed in May, seeded to winter wheat in October.
										June									
6/1/34			2	1:00P	90	0.02				51	44		"	"					G.S. 6 - winter wheat planted October 1933, harvested in August with combine harvester. Fall plowed, left rough until spring of 1935.
6/2/34			2	4:00P	40	0.04	0.12	0.12	0.06	64	43		"	"					
6/3-4/34			2	11:50P	250	0.51	0.36	0.28	0.28	64	43		"	"					
6/6/34			2	1:20P	400	0.15	0.12	0.08	0.06	66	41		"	"					
6/7/34			2	12:30P	15	0.08	0.60	0.32	0.16	63	52		"	"					
6/8/34			2	1:00A	240	0.15	0.24	0.20	0.14	70	52		"	"					
6/24/34			2	7:30P	20	0.03	0.12	0.08	0.06	75	47		"	"					

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: June-July-August September-October, 1934

Sheet 7 of 10 sheets

Date	Watershed: Number	Watershed: Area (acres)	Rainfall: Gage No.	Rainfall: Began (hour)	Rainfall: Duration (minutes)	Rainfall: Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	Maximum Intensity: 15 minutes (inches per hour)	Maximum Intensity: 30 minutes (inches per hour)	Temperature (degrees F): Maximum	Temperature (degrees F): Minimum	Run-off: Began (hour)	Run-off: Ended (hour)	Run-off: Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										June (Continued)									
6/25/34			2	4:50P	20	0.02	0.06	0.06	0.04	78	45		No runoff.						
6/26/34			2	2:30A	660	1.66	0.36	0.32	0.14	55	52		"	"					
6/28/34			2	1:20A	20	0.03	0.06	0.06	0.06	68	54		"	"					
										July									
7/20/34			2	8:30P	120	0.04	0.04	0.04	0.04	65	52		"	"					July to September - soil was very dry to moist.
7/22/34			2	5:00P	110	0.12	0.24	0.12	0.10	71	42		"	"					
7/25/34			2	5:50P	10	0.04	0.24	0.16	0.08	94	60		"	"					
										August									
8/5/34			2	9:30A	30	0.03	0.06	0.06	0.06	63	55		"	"					
										September									
9/10/34			2	12:01A	390	0.38	0.18	0.16	0.12	62	52		"	"					
9/12/34			2	4:20P	10	0.04	0.24	0.16	0.08	63	44		"	"					
9/22/34			2	6:00A	270	0.12	0.12	0.12	0.08	52	42		"	"					
										October								
10/9/34			2	3:20A	20	0.02	0.06	0.06	0.04	70	51		"	"					October to December - the precipitation was 1.3 inches above normal but intensities were low. About two-thirds of December precipitation was snow and approximately one inch of precipitation was on the ground at the end of December.
10/13/34			2	1:00A	240	0.18	0.12	0.12	0.08	48	37		"	"					
10/15/34			2	3:30A	60	0.17	0.24	0.16	0.14	47	38		"	"					
10/18/34			2	12:01A	270	0.12	0.12	0.12	0.10	46	39		"	"					
10/20/34			2	9:30A	330	0.30	0.08	0.08	0.08	46	40		"	"					
10/21/34			2	1:00A	660	0.50	0.24	0.24	0.22	56	42		"	"					
10/23/34			2	5:40A	620	0.64	0.24	0.20	0.16	48	34		"	"					
10/24/34	G.S.2	68.2	2	3:20A	610	0.58	0.12	0.12	0.12	58	37	7:45A	12:00P	0.001	0.004	12:00M		0.000	
	G.S.5	14.4											No runoff						
	G.S.6	15.2											"	"					

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month Oct-November, 1934

Sheet 8 of 10 sheets

Date	Watershed Number	Watershed Area (acres)	Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F.) Maximum	Temperature (degrees F.) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										October (Continued)									
10/25/34			2	12:20P	340	0.16	0.12	0.06	0.06	51	42								
10/22-31/34	G.S.2	68.2								58	37	168 hours		0.02	0.007	Continuous			
	G.S.5	14.4										No runoff.							
	G.S.6	15.2										"		"					
10/30/34			2	1:00P	390	0.09	0.06	0.06	0.06	51	41								
										November									
11/1/34			2	1:00A	90	0.03	0.06	0.04	0.04	53	43								
			2	9:45A	35	0.02	0.06	0.06	0.04										
			2	3:50P	50	0.06	0.06	0.06	0.06										
11/2-3/34			2	8:10P	200	0.20	0.08	0.08	0.08	48	37								
11/1-3/34	G.S.2									53	37	72 hours		0.02	0.02	10:50A(2)		0.000	
	G.S.5											No runoff.							
	G.S.6											"		"					
11/4/34	G.S.2		2	2:00P	600	0.38	0.08	0.08	0.08	53	37	24 hours		0.01	0.08	6:00P		0.000	
												No other runoff occurred on terraces or gaging stations.							
11/7/34			2	11:40A	110	0.04	0.12	0.04	0.02	54	46								
11/5-12/34	G.S.2									58	33	192 hours		0.03	0.02	(5-6-7)		0.000	Ground water.
												Terraces 15, 16, 17, 18, G.S. 4, 5, and 6, no runoff.							
11/15/34			2	--		0.03		--		58	35								
11/13-17/34	G.S.2		2	6:30P	250	0.26	0.08	0.08	0.08	58	35	120 hours		0.01	0.007	Continuous		0.001	" "
												Terraces 15, 16, 17, 18, G.S. 4, 5, and 6, no runoff.							
11/18/34			2	12:20P	5	0.02	0.24	0.08	0.04	48	37								
			2	11:30P	30	0.01	0.02	0.02	0.02										
11/19/34			2	5:30A	330	0.12	0.06	0.04	0.04	42	38								
			2	4:00P	130	0.06	0.12	0.04	0.02										
11/20/34			2	3:00A	30	0.02	0.04	0.04	0.04	41	38								
			2	11:00A	200	0.07	0.24	0.12	0.06										
11/20-21/34			2	11:15P	115	0.09	0.18	0.12	0.08	46	37								
11/24-25/34			2	9:40P	260	0.15	0.12	0.08	0.08	51	34								
11/18-28/34										51	31	264 hours		0.15	0.04	12:00M(19)		0.003	Ground water.
												Terraces 15, 16, 17, 18, G.S. 4, 5, and 6, no runoff.							
11/27/34			2			0.41		Snow		41	31								
11/29/34			2			0.14		"		38	31								
11/30/34			2			0.20		"		37	31								
11/29-30/34	G.S.2									37	31	48 hours		0.04	0.20	3:35P(30)		0.001	Melting snow and ground water.
11/28-30/34	G.S.5									37	31	72 "		0.07	0.04	6:00A(29)		0.000	

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month November-December, 1934

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Sheet 9 of 10 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F) Maximum	Temperature (degrees F) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										November (Continued)									
11/28-30/34	G.S.6	15.2								37	31	No runoff.							
												Terraces 15, 16, 17, 18 and G.S. 4,					no runoff.		
										December									
12/1-2/34	G.S.2	68.2								35	21	48 hours		0.02	0.06	12:00P	(11/30/34)	0.000	Melting snow and ground water.
12/2/34	G.S.5	14.4	2			0.02		Snow		35	21	24 "		0.005	0.02	3:00P		0.000	" " " " "
12/14/34			2			0.32		"		33	28								
12/16/34			2			0.12		"		34	26								
12/18/34			2			0.24		"		35	31								
12/3-18/34	G.S.2									42	21	384 hours		0.13	0.13	1:00P	(17)	0.004	
	G.S.5											No runoff.						0.004	
	G.S.6											" "							
												Terraces 15, 16, 17, 18 and G.S. 4,					no runoff.		
12/19/34	G.S.2		2	2:00P	540	0.56	0.12	0.12	0.12	46	30	24 hours		0.05	0.43	9:30P		0.006	Ground water, snow and rain.
	G.S.5											6:00P	12:00P	0.02	0.06	10:00P		0.002	" " " " "
	G.S.6											9:45P	12:00P	0.002	0.01	9:50P		0.006	" " " " "
												Terraces 15, 16, 17, 18 and G.S. 4,					no runoff.		
12/20/34	G.S.2									42	33	24 hours		0.03	0.31	12:01A		0.004	
	G.S.5											24 "		0.08	0.08	12:01A		0.006	
	G.S.6											24 "		0.01	0.02	12:40A		0.004	
												Terraces 15, 16, 17, 18 and G.S. 4,					no runoff.		
12/21/34	G.S.2		2	12:01A	230	0.12	0.12	0.08	0.06	50	34	24 hours		0.18	5.88	4:45P		0.554	Ground water, snow and rain.
	G.S.5		2	9:30A	540	0.65	0.48	0.24	0.16			24 "		0.23	2.24	4:00P		0.918	" " " " "
	G.S.6											24 "		0.03	0.08	5:00P		0.554	" " " " "
12/22/34	G.S.2									36	30	24 hours		0.03	0.23	12:25P		0.002	Ground water and melting snow.
	G.S.5											24 "		0.10	0.08	12:00M		0.001	" " " " "
	G.S.6											24 "		0.02	0.02	12:10A		0.002	" " " " "
												Terraces 15, 16, 17, 18 and G.S. 4,					no runoff.		
12/23/34	G.S.2		2			0.44		Snow		36	31	24 hours		0.03	0.16	12:25P		0.001	" " " " "
	G.S.5											24 "		0.11	0.08	12:00M		0.015	" " " " "
	G.S.6											24 "		0.02	0.02	Continuous		0.001	" " " " "
												Terraces 15, 16, 17, 18 and G.S. 4,					no runoff.		
12/24	G.S.2		2			0.24				36	30	24 hours		0.05	0.27	11:00A		0.012	" " " " "
	G.S.5											24 hours		0.10	0.08	8:00A		0.015	" " " " "
	G.S.6											24 "		0.02	0.02	Continuous		0.012	" " " " "
												Terraces 15, 16, 17, 18 and G.S. 4,					no runoff.		

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

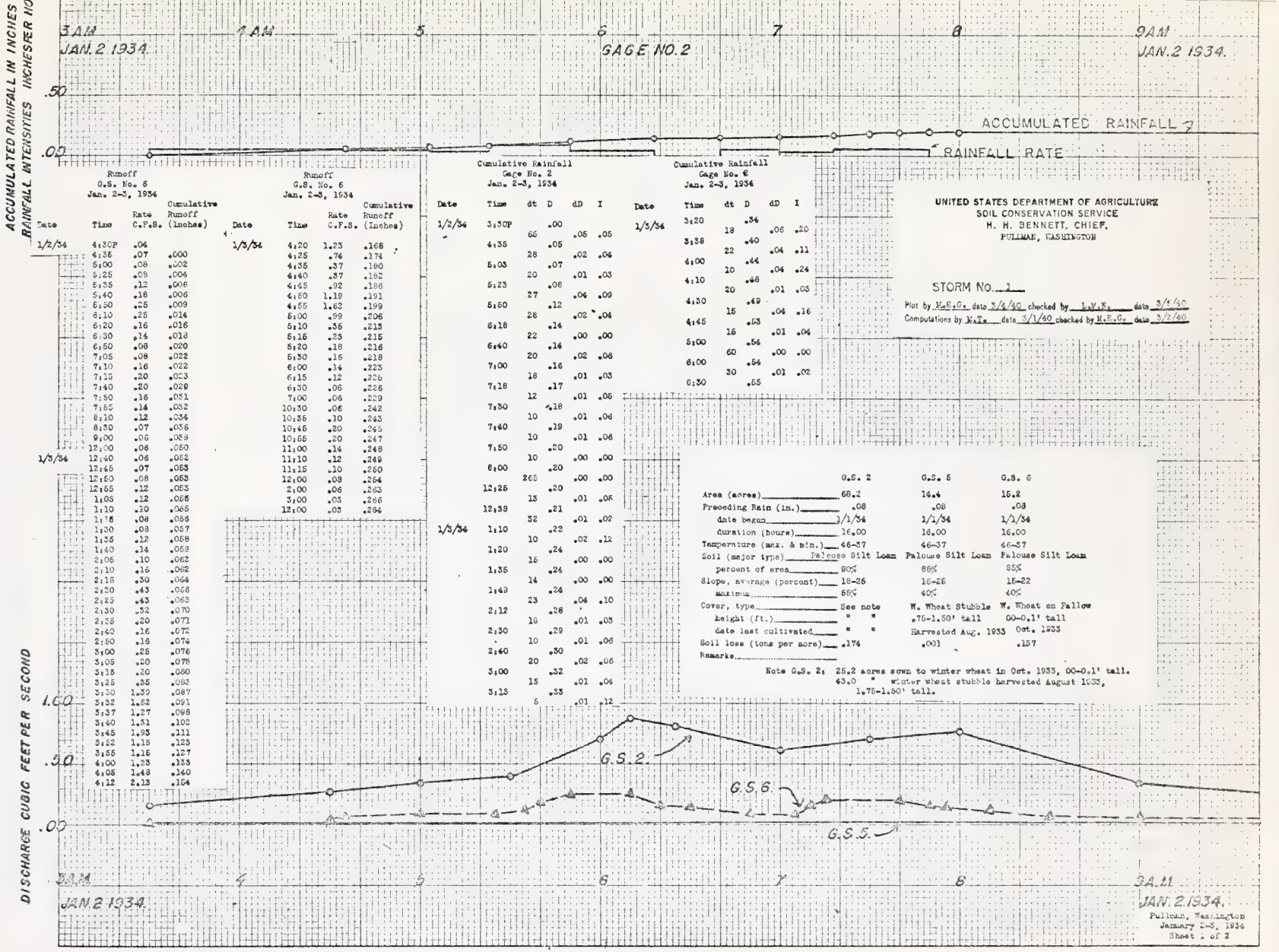
Month December, 1934

Sheet 10 of 10 sheets

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Date	Watershed		Rainfall				Maximum Intensity			Temperature (degrees F.)		Run-off			Maximum Rate		Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Cu. ft. sec.	Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										December (Continued)									
12/25-31/34	G.S.2	68.2								38	18	168 hours		0.16	0.13	12;00M(26)		0.012	Melting snow and ground water.
	G.S.5	14.4										168 "		0.37	0.04	12;00M(26)		0.005	" " " " "
	G.S.6	15.2										168 "		0.10	0.01	12;00M(26)		0.012	" " " " "
												Terraces 15, 16, 17, 18 and G.S.4, no runoff.							
12/26/34			2			0.09		Snow		38	29								
12/27/34			2			0.05		"		35	30								
12/29/34			2			0.15		"		35	21								
12/31/34			2			0.42		"		36	21								



Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/2/34	4:30P	.04	
	4:35	.07	.000
	5:00	.08	.002
	5:25	.08	.004
	5:35	.12	.006
	5:40	.18	.006
	5:50	.25	.009
	6:10	.25	.014
	6:20	.16	.016
	6:30	.14	.018
	6:50	.08	.020
	7:05	.08	.022
	7:10	.16	.022
	7:15	.20	.023
	7:40	.20	.029
	7:50	.16	.031
	7:55	.14	.032
	8:10	.12	.034
	8:30	.07	.036
	9:00	.06	.038
	12:00	.06	.050
1/3/34	12:40	.06	.052
	12:45	.07	.053
	12:50	.08	.053
	12:55	.12	.053
	1:05	.12	.055
	1:10	.10	.055
	1:15	.08	.056
	1:30	.08	.057
	1:35	.12	.058
	1:40	.14	.058
	2:05	.10	.062
	2:10	.16	.062
	2:15	.30	.064
	2:20	.43	.066
	2:25	.43	.069
	2:30	.32	.070
	2:35	.20	.071
	2:40	.16	.072
	2:50	.16	.074
	3:00	.25	.076
	3:05	.20	.078
	3:15	.20	.080
	3:25	.35	.083
	3:30	1.32	.087
	3:32	1.52	.091
	3:37	1.27	.098
	3:40	1.31	.102
	3:45	1.93	.111
	3:52	1.15	.123
	3:55	1.15	.127
	4:00	1.23	.133
	4:05	1.48	.140
	4:12	2.13	.154

Runoff G.S. No. 6 Jan. 2-3, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/3/34	4:20	1.23	.168
	4:25	.74	.174
	4:35	.37	.180
	4:40	.37	.182
	4:45	.92	.186
	4:50	1.19	.191
	4:55	1.62	.199
	5:00	.99	.206
	5:10	.36	.213
	5:15	.23	.215
	5:20	.18	.216
	5:30	.16	.218
	6:00	.14	.223
	6:15	.12	.226
	6:30	.06	.226
	7:00	.06	.229
	10:30	.06	.242
	10:35	.10	.243
	10:45	.20	.245
	10:55	.20	.247
	11:00	.14	.248
	11:10	.12	.249
	11:15	.10	.250
	12:00	.08	.254
	2:00	.06	.263
	3:00	.05	.266
	12:00	.05	.284

Cumulative Rainfall Gage No. 2 Jan. 2-3, 1934

Date	Time	dt	D	dD	I
1/2/34	3:30P		.00		
		65		.05	.05
	4:35		.05		
		28		.02	.04
	5:03		.07		
		20		.01	.03
	5:23		.08		
		27		.04	.09
	5:50		.12		
		28		.02	.04
	6:18		.14		
		22		.00	.00
	6:40		.14		
		20		.02	.06
	7:00		.16		
		18		.01	.03
	7:18		.17		
		12		.01	.05
	7:30		.18		
		10		.01	.06
	7:40		.19		
		10		.01	.06
	7:50		.20		
		10		.00	.00
	8:00		.20		
		265		.00	.00
	12:25		.20		
		13		.01	.05
	12:38		.21		
		32		.01	.02
1/3/34	1:10		.22		
		10		.02	.12
	1:20		.24		
		15		.00	.00
	1:35		.24		
		14		.00	.00
	1:49		.24		
		23		.04	.10
	2:12		.28		
		16		.01	.03
	2:30		.29		
		10		.01	.06
	2:40		.30		
		20		.02	.06
	3:00		.32		
		15		.01	.04
	3:15		.33		
		6		.01	.12

Cumulative Rainfall Gage No. 6 Jan. 2-3, 1934

Date	Time	dt	D	dD	I
1/3/34	3:20		.34		
		18		.06	.20
	3:38		.40		
		22		.04	.11
	4:00		.44		
		10		.04	.24
	4:10		.48		
		20		.01	.03
	4:30		.49		
		15		.04	.16
	4:45		.53		
		15		.01	.04
	5:00		.54		
		60		.00	.00
	6:00		.54		
		30		.01	.02
	6:30		.55		

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

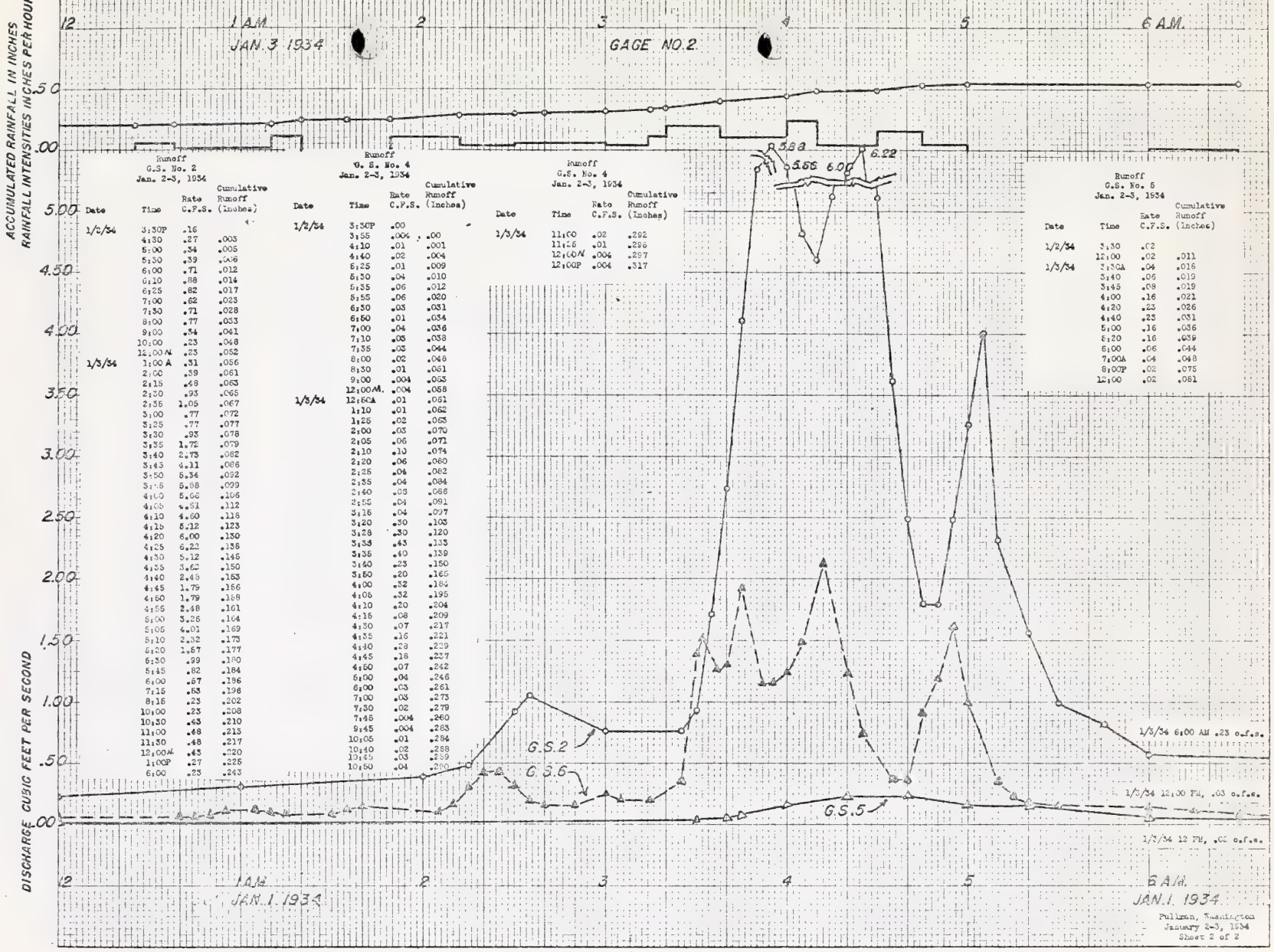
STORM NO. 1

Plot by M.E.G. date 3/4/40 checked by L.W.E. date 3/5/40
Computations by M.T. date 3/1/40 checked by M.E.G. date 3/2/40

	G.S. 2	G.S. 5	G.S. 6
Area (acres)	68.2	14.4	15.2
Preceding Rain (in.)	.08	.08	.03
date began	1/1/34	1/1/34	1/1/34
duration (hours)	16.00	16.00	16.00
Temperature (max. & min.)	46-37	46-37	46-37
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	86%	85%
Slope, average (percent)	18-26	16-26	15-22
maximum	65%	40%	40%
Cover, type	See note	W. Wheat Stubble	W. Wheat on Fallow
height (ft.)	" "	.75-1.50' tall	00-0.1' tall
date last cultivated	" "	Harvested Aug. 1933	Oct. 1933
Soil loss (tons per acre)	.174	.001	.157
Remarks			

Note G.S. 2: 25.2 acres sown to winter wheat in Oct. 1933, 00-0.1' tall.
43.0 " winter wheat stubble harvested August 1933, 1.75-1.50' tall.

Pullman, Washington
January 2-3, 1934
Sheet 1 of 2



Runoff
G.S. No. 2
Jan. 2-3, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/2/34	3:30P	.16	
	4:30	.27	.003
	5:00	.34	.005
	5:30	.39	.008
	6:00	.71	.012
	6:10	.88	.014
	6:25	.82	.017
	7:00	.62	.023
	7:30	.71	.028
	8:00	.77	.033
	9:00	.54	.041
	10:00	.23	.048
	12:00M	.23	.052
1/3/34	1:00 A	.31	.056
	2:00	.39	.061
	2:15	.48	.063
	2:30	.93	.065
	2:35	1.05	.067
	3:00	.77	.072
	3:25	.77	.077
	3:30	.93	.078
	3:35	1.72	.079
	3:40	2.73	.082
	3:45	4.11	.086
	3:50	5.34	.092
	3:55	5.88	.099
	4:00	5.66	.106
	4:05	4.51	.112
	4:10	4.60	.118
	4:15	5.12	.123
	4:20	6.00	.130
	4:25	6.22	.138
	4:30	5.12	.146
	4:35	3.62	.150
	4:40	2.48	.153
	4:45	1.79	.156
	4:50	1.79	.158
	4:55	2.48	.161
	5:00	3.26	.164
	5:05	4.01	.169
	5:10	2.32	.173
	5:20	1.67	.177
	5:30	.99	.180
	5:45	.82	.184
	6:00	.67	.186
	7:15	.53	.196
	8:15	.23	.202
	10:00	.23	.208
	10:30	.43	.210
	11:00	.48	.213
	11:30	.48	.217
	12:00M	.43	.220
	1:00P	.27	.225
	6:00	.23	.243

Runoff
G. S. No. 4
Jan. 2-3, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/2/34	3:30P	.00	
	3:55	.004	.00
	4:10	.01	.001
	4:40	.02	.004
	5:25	.01	.009
	5:30	.04	.010
	5:35	.06	.012
	5:55	.06	.020
	6:30	.03	.031
	6:50	.01	.034
	7:00	.04	.036
	7:10	.03	.038
	7:35	.03	.044
	8:00	.02	.048
	8:30	.01	.051
	9:00	.004	.053
	12:00M.	.004	.058
1/3/34	12:60A	.01	.061
	1:10	.01	.062
	1:25	.02	.063
	2:00	.03	.070
	2:05	.06	.071
	2:10	.10	.074
	2:20	.06	.080
	2:25	.04	.082
	2:35	.04	.084
	2:40	.03	.086
	2:55	.04	.091
	3:15	.04	.097
	3:20	.30	.103
	3:28	.30	.120
	3:33	.43	.133
	3:35	.40	.139
	3:40	.23	.150
	3:50	.20	.165
	4:00	.32	.184
	4:05	.32	.195
	4:10	.20	.204
	4:15	.08	.209
	4:30	.07	.217
	4:35	.16	.221
	4:40	.28	.229
	4:45	.18	.237
	4:50	.07	.242
	5:00	.04	.246
	6:00	.03	.261
	7:00	.03	.273
	7:30	.02	.279
	7:45	.004	.280
	9:45	.004	.283
	10:05	.01	.284
	10:40	.02	.288
	10:45	.03	.289
	10:50	.04	.290

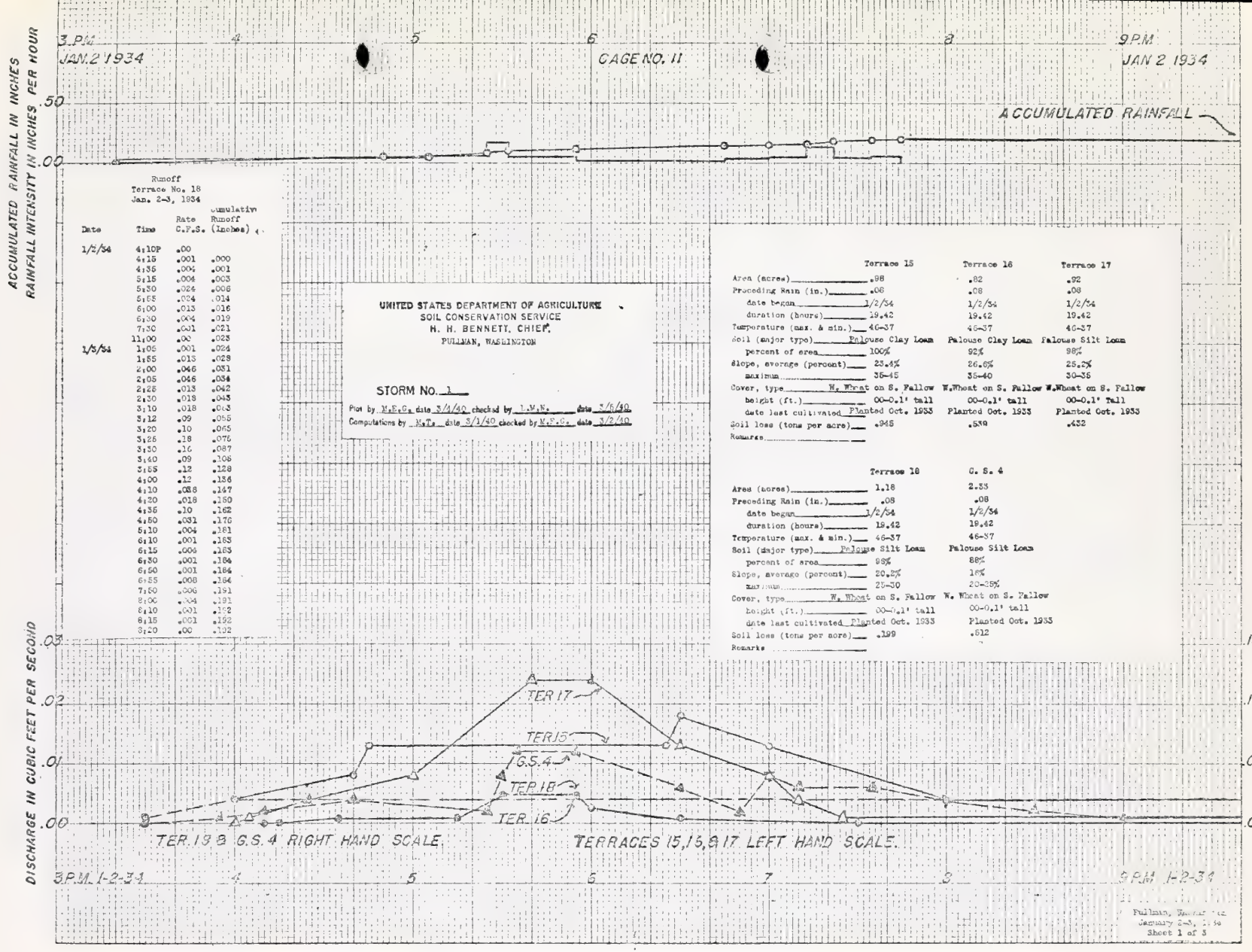
Runoff
G.S. No. 4
Jan. 2-3, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/3/34	11:00	.02	.292
	11:25	.01	.296
	12:00N	.004	.297
	12:00P	.004	.317

Runoff
G.S. No. 5
Jan. 2-3, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/2/34	3:30	.02	
	12:00	.02	.011
1/3/34	3:30A	.04	.016
	3:40	.06	.019
	3:45	.08	.019
	4:00	.16	.021
	4:20	.23	.026
	4:40	.23	.031
	5:00	.16	.036
	5:20	.16	.039
	6:00	.06	.044
	7:00A	.04	.048
	8:00P	.02	.075
	12:00	.02	.081

Pullman, Washington
January 2-3, 1934
Sheet 2 of 2



Runoff
Terrace No. 18
Jan. 2-3, 1934

Date	Time	Rate C.F.S.	Cumulativ Runoff (Inches)
1/2/34	4:10P	.00	
	4:15	.001	.000
	4:35	.004	.001
	5:15	.004	.003
	5:30	.024	.006
	5:55	.024	.014
	6:00	.013	.016
	6:30	.004	.019
	7:30	.001	.021
	11:00	.00	.023
1/3/34	1:05	.001	.024
	1:55	.013	.028
	2:00	.046	.031
	2:05	.046	.034
	2:25	.013	.042
	2:50	.018	.043
	3:10	.018	.043
	3:12	.09	.055
	3:20	.10	.065
	3:25	.18	.075
	3:30	.16	.087
	3:40	.09	.108
	3:55	.12	.128
	4:00	.12	.136
	4:10	.038	.147
	4:20	.018	.150
	4:35	.10	.162
	4:50	.031	.170
	5:10	.004	.181
	6:10	.001	.183
	6:15	.004	.183
	6:30	.001	.184
	6:50	.001	.184
	6:55	.008	.184
	7:50	.006	.191
	8:00	.004	.191
	8:10	.001	.192
	8:15	.001	.192
	8:20	.00	.192

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF
PULLMAN, WASHINGTON

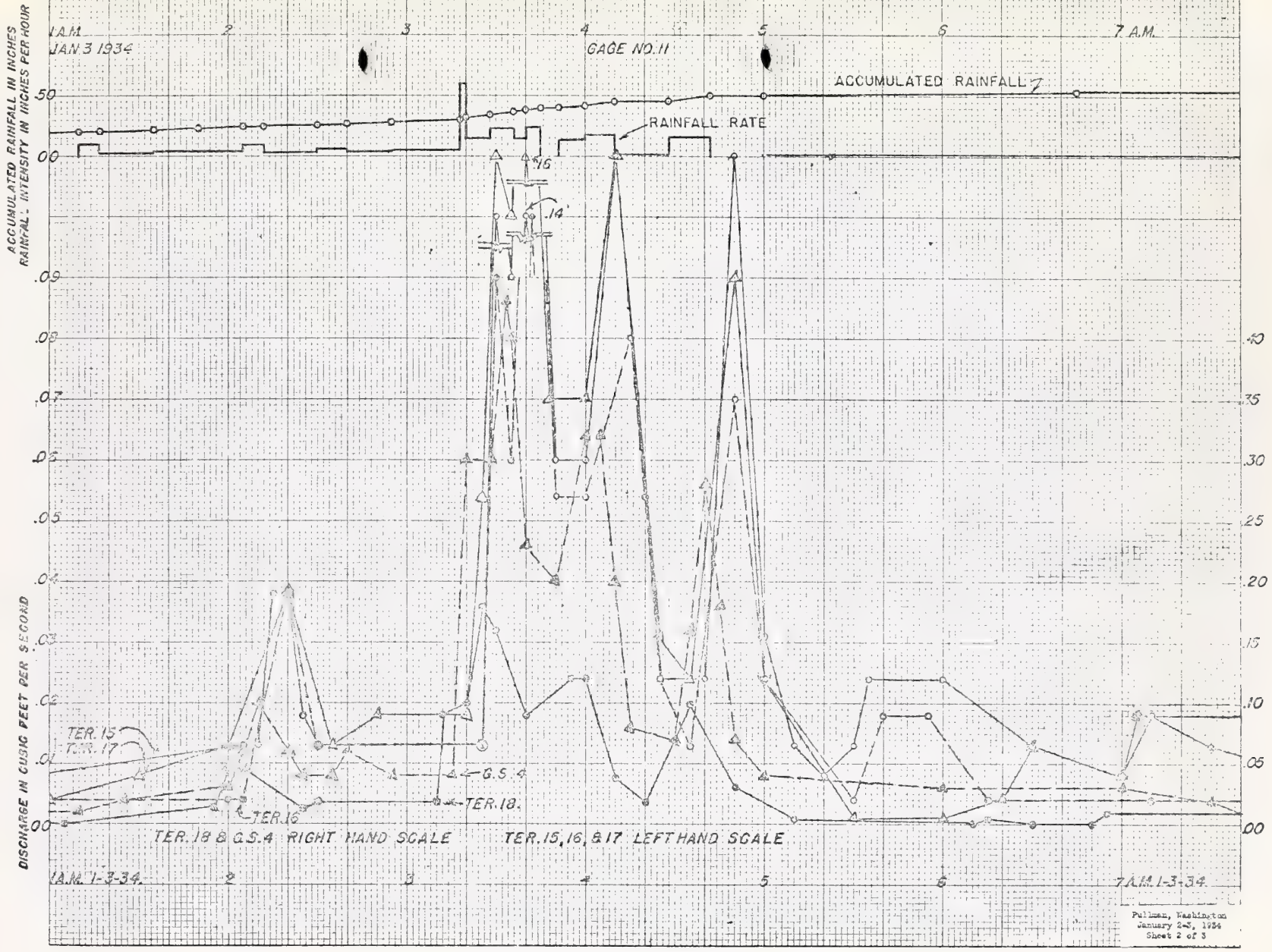
STORM No. 1

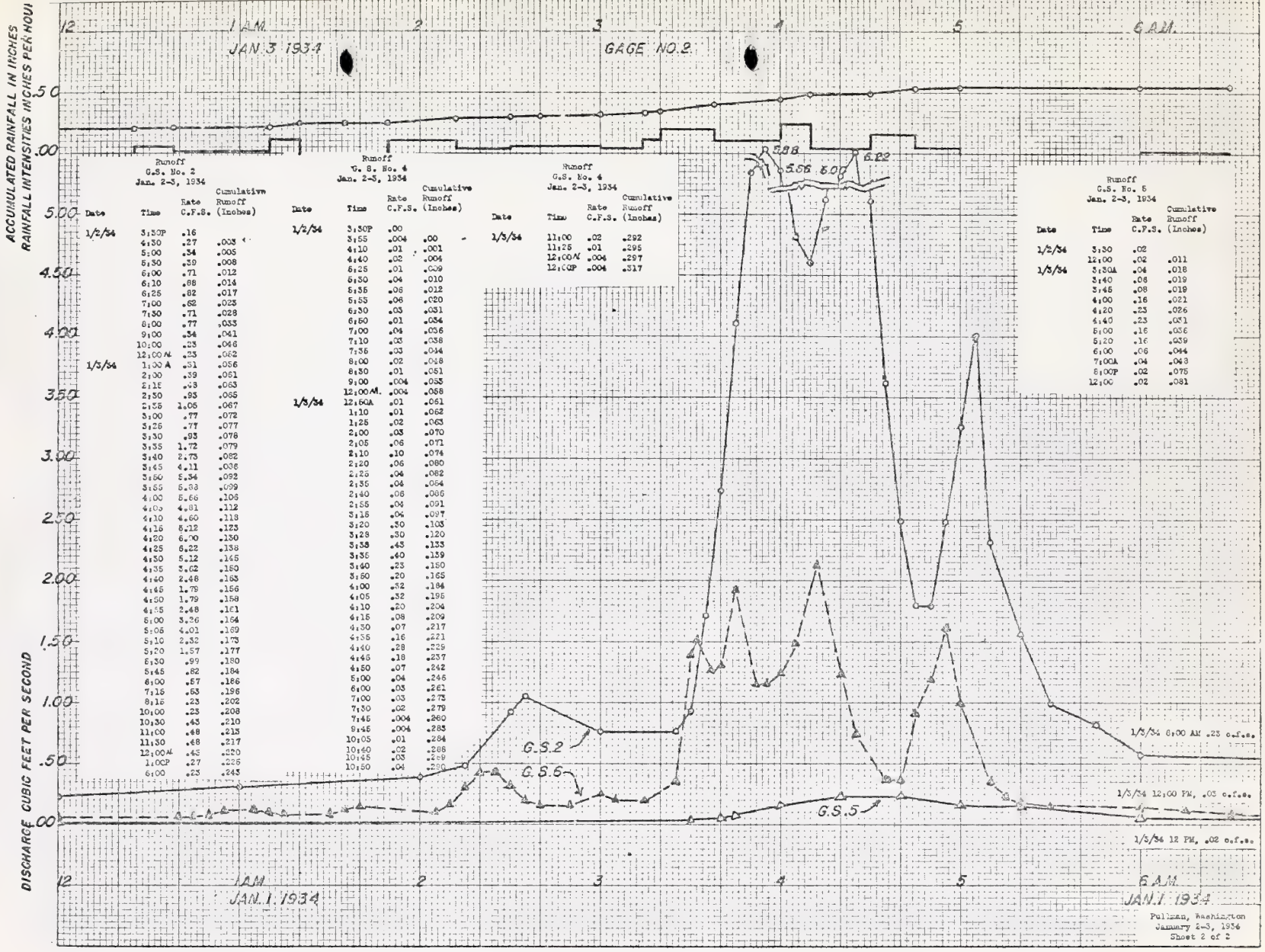
Plot by M.E.G. date 3/4/40 checked by L.M.N. date 3/6/40
Computations by M.T. date 3/1/40 checked by M.P.O. date 3/2/40

	Terrace 15	Terrace 16	Terrace 17
Area (acres)	.98	.82	.92
Preceding Rain (in.)	.08	.08	.08
date began	1/2/34	1/2/34	1/2/34
duration (hours)	19.42	19.42	19.42
Temperature (max. & min.)	46-37	46-37	46-37
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam	Palouse Silt Loam
percent of area	100%	92%	98%
Slope, average (percent)	23.4%	26.6%	25.2%
maximum	35-45	35-40	30-35
Cover, type	W. Wheat on S. Fallow	W.Wheat on S. Fallow	W.Wheat on S. Fallow
height (ft.)	00-0.1' tall	00-0.1' tall	00-0.1' Tall
date last cultivated	Planted Oct. 1933	Planted Oct. 1933	Planted Oct. 1933
Soil loss (tons per acre)	.945	.539	.432
Remarks			

	Terrace 18	G. S. 4
Area (acres)	1.18	2.33
Preceding Rain (in.)	.08	.08
date began	1/2/34	1/2/34
duration (hours)	19.42	19.42
Temperature (max. & min.)	46-37	46-37
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	98%	88%
Slope, average (percent)	20.2%	16%
maximum	25-30	20-25%
Cover, type	W. Wheat on S. Fallow	W. Wheat on S. Fallow
height (ft.)	00-0.1' tall	00-0.1' tall
date last cultivated	Planted Oct. 1933	Planted Oct. 1933
Soil loss (tons per acre)	.199	.612
Remarks		

Pullman, Washington
January 2-3, 1934
Sheet 1 of 3


1 A.M.
JAN 3 1934
2
3
4
5
6
7 A.M.
GAGE NO. 11
ACCUMULATED RAINFALL
RAINFALL RATE
ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HOUR
DISCHARGE IN CUBIC FEET PER SECOND
.50
.00
.09
.08
.07
.06
.05
.04
.03
.02
.01
.00
.40
.35
.30
.25
.20
.15
.10
.05
.00
.16
.14
TER. 15
TER. 17
TER. 16
G.S. 4
TER. 18.
TER. 18 & G.S. 4 RIGHT HAND SCALE
TER. 15, 16, & 17 LEFT HAND SCALE
1 A.M. 1-3-34
7 A.M. 1-3-34
Pullman, Washington
January 2-3, 1934
Sheet 2 of 3



Runoff
G.S. No. 2
Jan. 2-3, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/2/34	3:30P	.16	
	4:30	.27	.003
	5:00	.34	.005
	5:30	.39	.008
	6:00	.71	.012
	6:10	.88	.014
	6:25	.82	.017
	7:00	.62	.023
	7:30	.71	.028
	8:00	.77	.033
	9:00	.34	.041
	10:00	.23	.046
	12:00 M.	.23	.052
1/3/34	1:00 A	.31	.056
	2:00	.39	.061
	2:15	.43	.063
	2:30	.93	.065
	2:35	1.05	.067
	3:00	.77	.072
	3:25	.77	.077
	3:30	.93	.078
	3:35	1.72	.079
	3:40	2.73	.082
	3:45	4.11	.086
	3:50	5.34	.092
	3:55	5.88	.099
	4:00	5.56	.106
	4:05	4.81	.112
	4:10	4.60	.118
	4:15	5.12	.123
	4:20	6.00	.130
	4:25	6.22	.138
	4:30	5.12	.145
	4:35	3.62	.150
	4:40	2.48	.153
	4:45	1.79	.156
	4:50	1.79	.158
	4:55	2.48	.161
	5:00	3.26	.164
	5:05	4.01	.169
	5:10	2.32	.173
	5:20	1.57	.177
	5:30	.99	.180
	5:45	.82	.184
	6:00	.57	.186
	7:15	.53	.196
	8:15	.23	.202
	10:00	.23	.208
	10:30	.43	.210
	11:00	.48	.213
	11:30	.48	.217
	12:00 M.	.43	.220
	1:00P	.27	.226
	6:00	.23	.243

Runoff
G. S. No. 4
Jan. 2-3, 1934

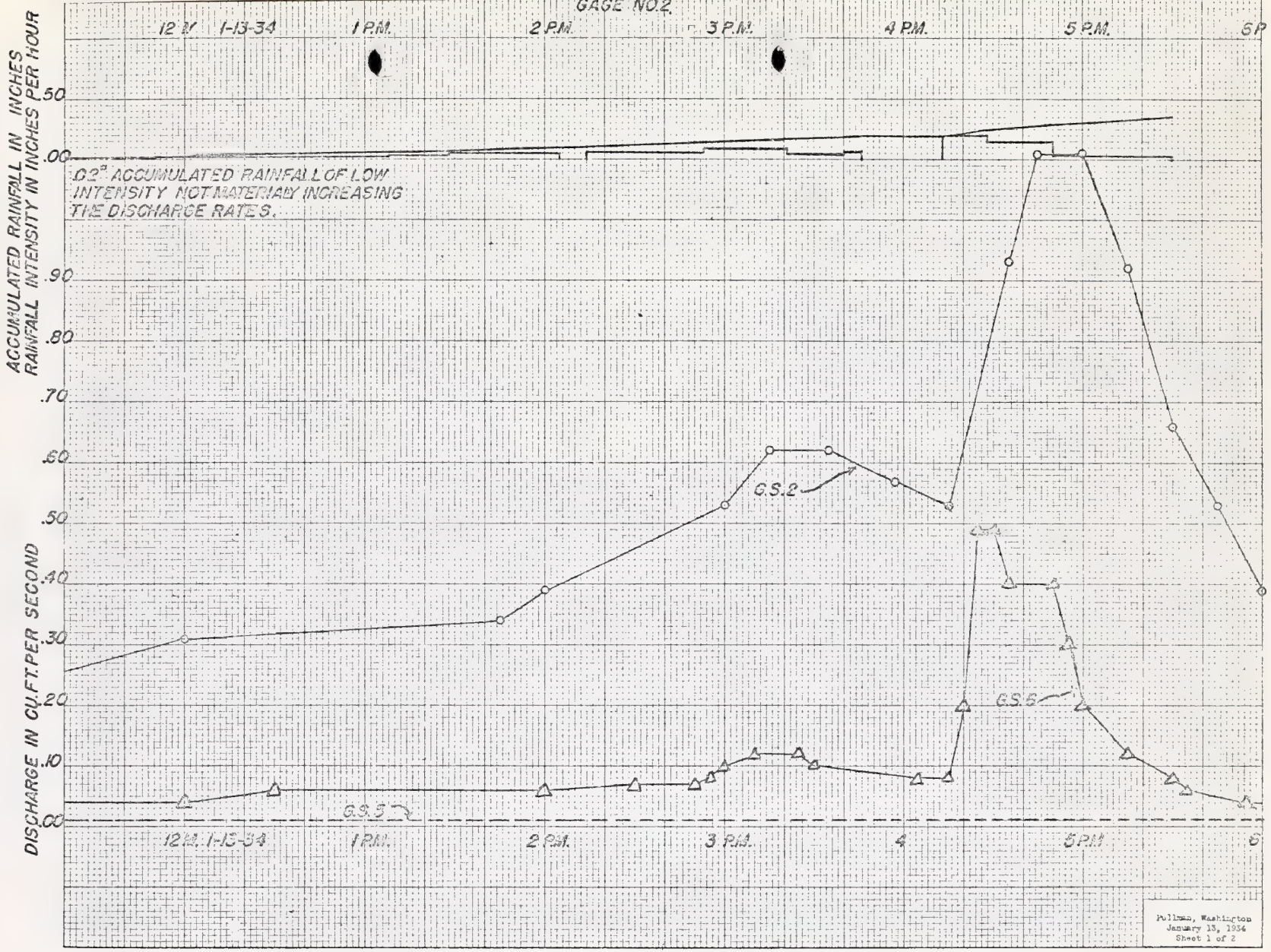
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/2/34	3:30P	.00	
	3:55	.004	.00
	4:10	.01	.001
	4:40	.02	.004
	5:25	.01	.009
	5:30	.04	.010
	5:35	.06	.012
	5:55	.06	.020
	6:30	.03	.031
	6:50	.01	.034
	7:00	.04	.036
	7:10	.03	.038
	7:35	.03	.044
	8:00	.02	.048
	8:30	.01	.051
	9:00	.004	.053
	12:00 M.	.004	.058
1/3/34	12:50A	.01	.061
	1:10	.01	.062
	1:25	.02	.063
	2:00	.03	.070
	2:05	.06	.071
	2:10	.10	.074
	2:20	.06	.080
	2:25	.04	.082
	2:35	.04	.084
	2:40	.06	.086
	2:55	.04	.091
	3:15	.04	.097
	3:20	.30	.103
	3:28	.30	.120
	3:33	.43	.133
	3:35	.40	.139
	3:40	.23	.150
	3:50	.20	.163
	4:00	.32	.184
	4:05	.32	.195
	4:10	.20	.204
	4:15	.08	.209
	4:30	.07	.217
	4:35	.16	.221
	4:40	.28	.229
	4:45	.18	.237
	4:50	.07	.242
	5:00	.04	.246
	6:00	.03	.261
	7:00	.03	.273
	7:30	.02	.279
	7:45	.004	.280
	9:45	.004	.283
	10:05	.01	.284
	10:40	.02	.286
	10:45	.03	.289
	10:50	.04	.290

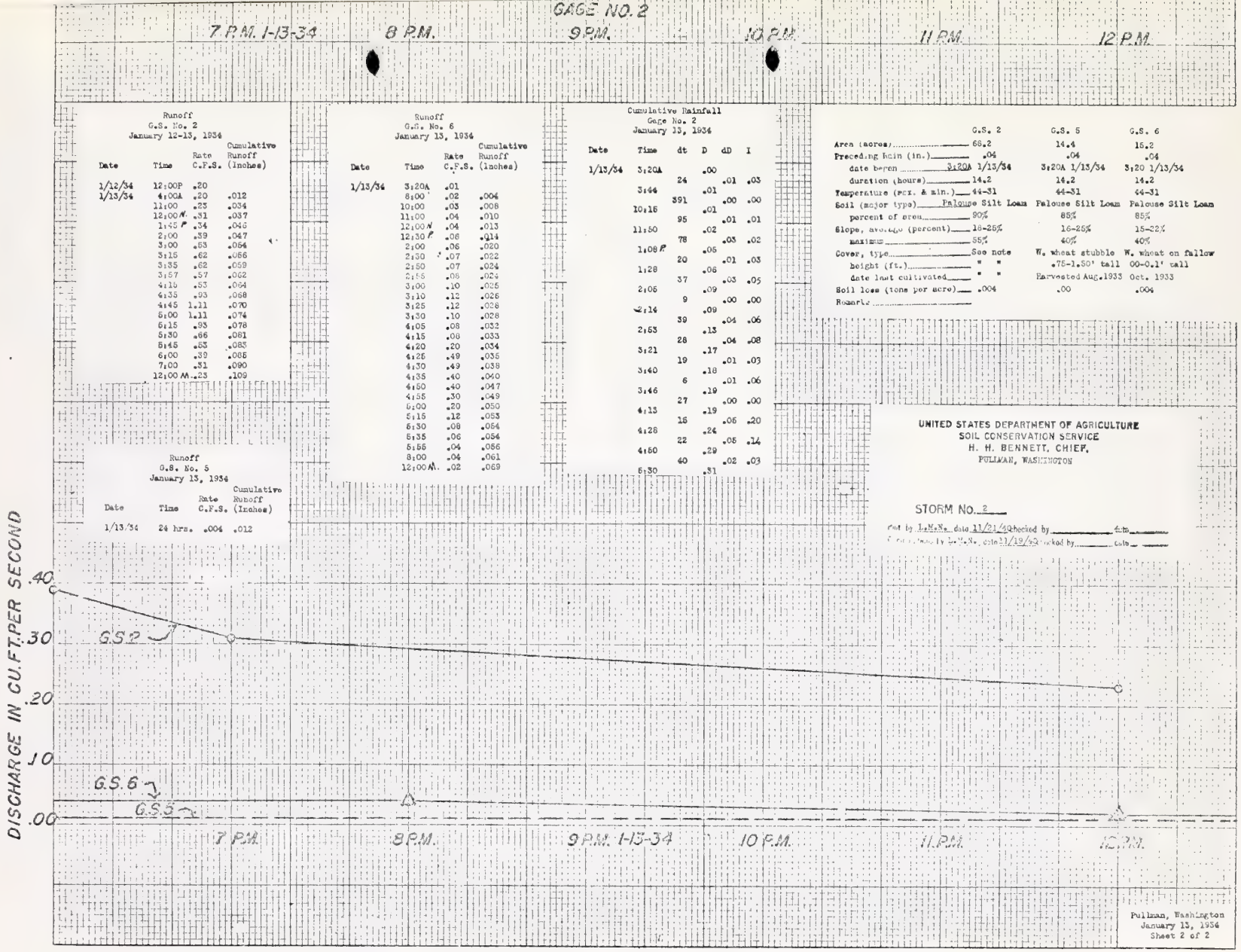
Runoff
G.S. No. 4
Jan. 2-3, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/3/34	11:00	.02	.292
	11:25	.01	.295
	12:00 M	.004	.297
	12:00P	.004	.317

Runoff
G.S. No. 5
Jan. 2-3, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/2/34	3:30	.02	
	12:00	.02	.011
1/3/34	3:30A	.04	.018
	3:40	.06	.019
	3:45	.08	.019
	4:00	.16	.021
	4:20	.23	.026
	4:40	.23	.031
	5:00	.16	.036
	5:20	.16	.039
	6:00	.06	.044
	7:00A	.04	.048
	8:00P	.02	.075
	12:00	.02	.081


GAGE NO.2
12 M 1-13-34
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P
ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HOUR
.50
.00
.90
.80
.70
.60
.50
.40
.30
.20
.10
.00
DISCHARGE IN CU.FT.PER SECOND
.02" ACCUMULATED RAINFALL OF LOW INTENSITY NOT MATERIALY INCREASING THE DISCHARGE RATES.
G.S.2
G.S.5
G.S.5
12 M. 1-13-34
1 P.M.
2 P.M.
3 P.M.
4
5 P.M.
6
Pullman, Washington
January 13, 1934
Sheet 1 of 2



Runoff
G.S. No. 2
January 12-13, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/12/34	12:00P	.20	
1/13/34	4:00A	.20	.012
	11:00	.23	.034
	12:00N	.31	.037
	1:45 P	.34	.046
	2:00	.39	.047
	3:00	.53	.054
	3:15	.62	.056
	3:35	.62	.059
	3:57	.57	.062
	4:15	.53	.064
	4:35	.93	.068
	4:45	1.11	.070
	5:00	1.11	.074
	5:15	.93	.078
	5:30	.86	.081
	5:45	.53	.083
	6:00	.39	.085
	7:00	.31	.090
	12:00 M.	.23	.109

Runoff
G.S. No. 6
January 13, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/13/34	3:20A	.01	
	8:00	.02	.004
	10:00	.03	.008
	11:00	.04	.010
	12:00 N	.04	.013
	12:30 P	.06	.014
	2:00	.06	.020
	2:30	.07	.022
	2:50	.07	.024
	2:55	.08	.025
	3:00	.10	.025
	3:10	.12	.026
	3:25	.12	.028
	3:30	.10	.028
	4:05	.08	.032
	4:15	.08	.033
	4:20	.20	.034
	4:25	.49	.035
	4:30	.49	.038
	4:35	.40	.040
	4:50	.40	.047
	4:55	.30	.049
	5:00	.20	.050
	5:15	.12	.053
	5:30	.08	.054
	5:35	.06	.054
	5:55	.04	.056
	8:00	.04	.061
	12:00 M.	.02	.069

Cumulative Rainfall
Gage No. 2
January 13, 1934

Date	Time	dt	D	dD	I
1/13/34	3:20A		.00		
		24		.01	.03
	3:44		.01		
		391		.00	.00
	10:15		.01		
		95		.01	.01
	11:50		.02		
		78		.03	.02
	1:08 P		.05		
		20		.01	.03
	1:28		.06		
		37		.03	.05
	2:05		.09		
		9		.00	.00
	2:14		.09		
		39		.04	.06
	2:53		.13		
		28		.04	.08
	3:21		.17		
		19		.01	.03
	3:40		.18		
		6		.01	.06
	3:46		.19		
		27		.00	.00
	4:13		.19		
		16		.05	.20
	4:28		.24		
		22		.05	.14
	4:50		.29		
		40		.02	.03
	5:30		.31		

	G.S. 2	G.S. 5	G.S. 6
Area (acres)	68.2	14.4	15.2
Preceding Rain (in.)	.04	.04	.04
date begun	3:20A 1/13/34	3:20A 1/13/34	3:20 1/13/34
duration (hours)	14.2	14.2	14.2
Temperature (max. & min.)	44-31	44-31	44-31
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%	85%
Slope, average (percent)	18-25%	16-25%	15-22%
maximum	55%	40%	40%
Cover, type	See note	W. wheat stubble	W. wheat on fallow
height (ft.)	" "	.75-1.50' tall	00-0.1' tall
date last cultivated	" "	Harvested Aug.1933	Oct. 1933
Soil loss (tons per acre)	.004	.00	.004
Remarks			

Runoff
G.S. No. 5
January 13, 1934

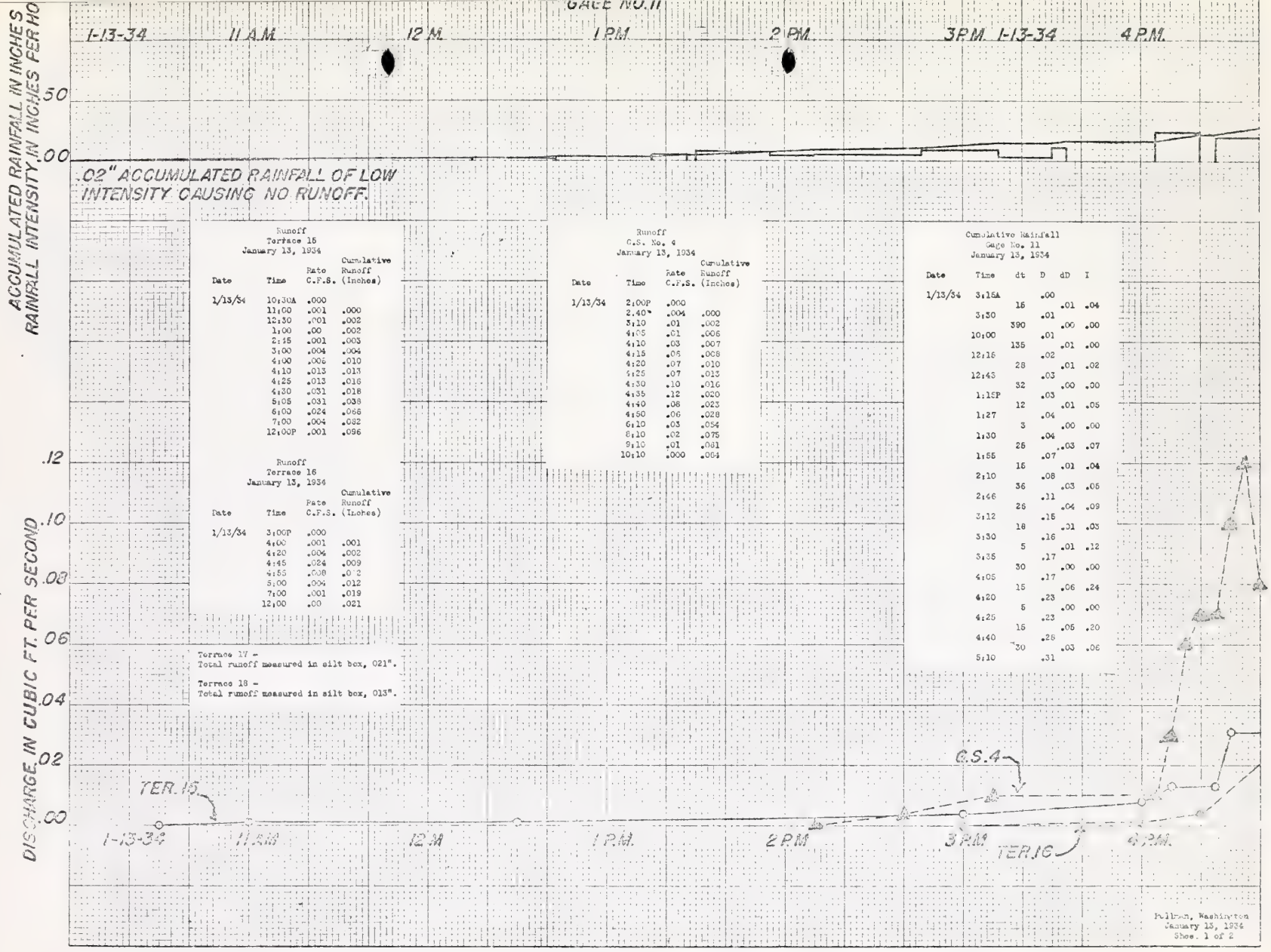
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/13/34	24 hrs.	.004	.012

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 2

Plot by L.M.N. date 11/21/42 checked by _____ date _____
Computations by L.M.N. date 11/19/42 checked by _____ date _____

Pullman, Washington
January 13, 1934
Sheet 2 of 2



Runoff
Terrace 15
January 13, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/13/34	10:30A	.000	
	11:00	.001	.000
	12:30	.001	.002
	1:00	.00	.002
	2:45	.001	.003
	3:00	.004	.004
	4:00	.006	.010
	4:10	.013	.013
	4:25	.013	.016
	4:30	.031	.018
	5:05	.031	.038
	6:00	.024	.066
	7:00	.004	.082
	12:00P	.001	.096

Runoff
Terrace 16
January 13, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/13/34	3:00P	.000	
	4:00	.001	.001
	4:20	.004	.002
	4:45	.024	.009
	4:55	.008	.012
	5:00	.004	.012
	7:00	.001	.019
	12:00	.00	.021

Terrace 17 -
Total runoff measured in silt box, .021".

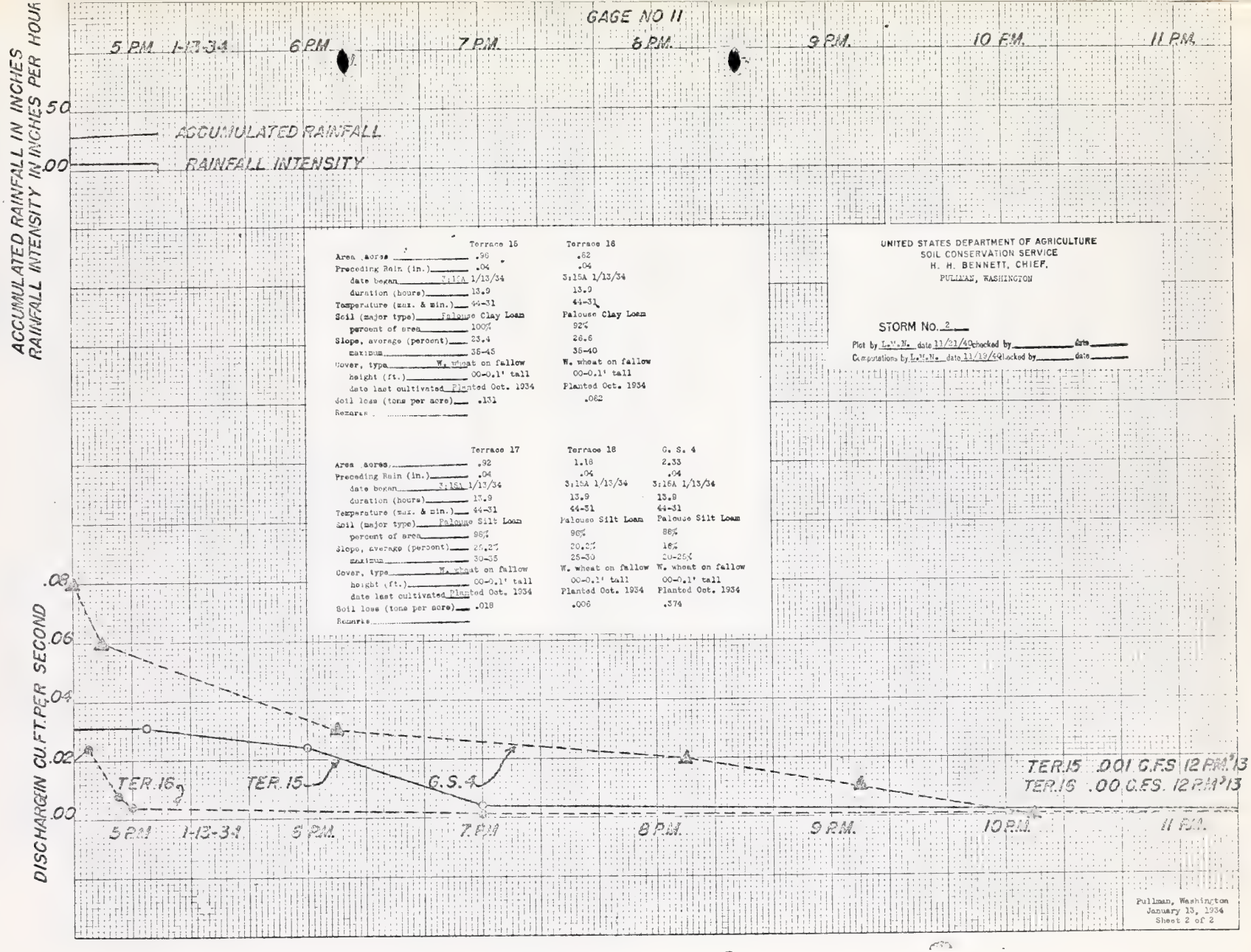
Terrace 18 -
Total runoff measured in silt box, .013".

Runoff
C.S. No. 4
January 13, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/13/34	2:00P	.000	
	2:40	.004	.000
	3:10	.01	.002
	4:05	.01	.006
	4:10	.03	.007
	4:15	.06	.008
	4:20	.07	.010
	4:25	.07	.013
	4:30	.10	.016
	4:35	.12	.020
	4:40	.08	.023
	4:50	.06	.028
	6:10	.03	.054
	8:10	.02	.075
	9:10	.01	.081
	10:10	.000	.084

Cumulative Rainfall
Gage No. 11
January 13, 1934

Date	Time	dt	D	dD	I
1/13/34	3:15A		.00		
		15		.01	.04
	3:30		.01		
		390		.00	.00
	10:00		.01		
		135		.01	.00
	12:16		.02		
		28		.01	.02
	12:43		.03		
		32		.00	.00
	1:15P		.03		
		12		.01	.05
	1:27		.04		
		3		.00	.00
	1:30		.04		
		25		.03	.07
	1:55		.07		
		15		.01	.04
	2:10		.08		
		36		.03	.05
	2:46		.11		
		26		.04	.09
	3:12		.15		
		18		.01	.03
	3:30		.16		
		5		.01	.12
	3:35		.17		
		30		.00	.00
	4:05		.17		
		15		.06	.24
	4:20		.23		
		5		.00	.00
	4:25		.23		
		15		.05	.20
	4:40		.28		
		30		.03	.06
	5:10		.31		



	Terrace 15	Terrace 16
Area acres	.96	.62
Preceding Rain (in.)	.04	.04
date began	3:15A 1/13/34	3:15A 1/13/34
duration (hours)	13.9	13.9
Temperature (max. & min.)	44-31	44-31
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam
percent of area	100%	92%
Slope, average (percent)	23.4	26.6
maximum	35-45	35-40
Cover, type	W. wheat on fallow	W. wheat on fallow
height (ft.)	00-0.1' tall	00-0.1' tall
date last cultivated	Planted Oct. 1934	Planted Oct. 1934
Soil loss (tons per acre)	.131	.062
Remarks		

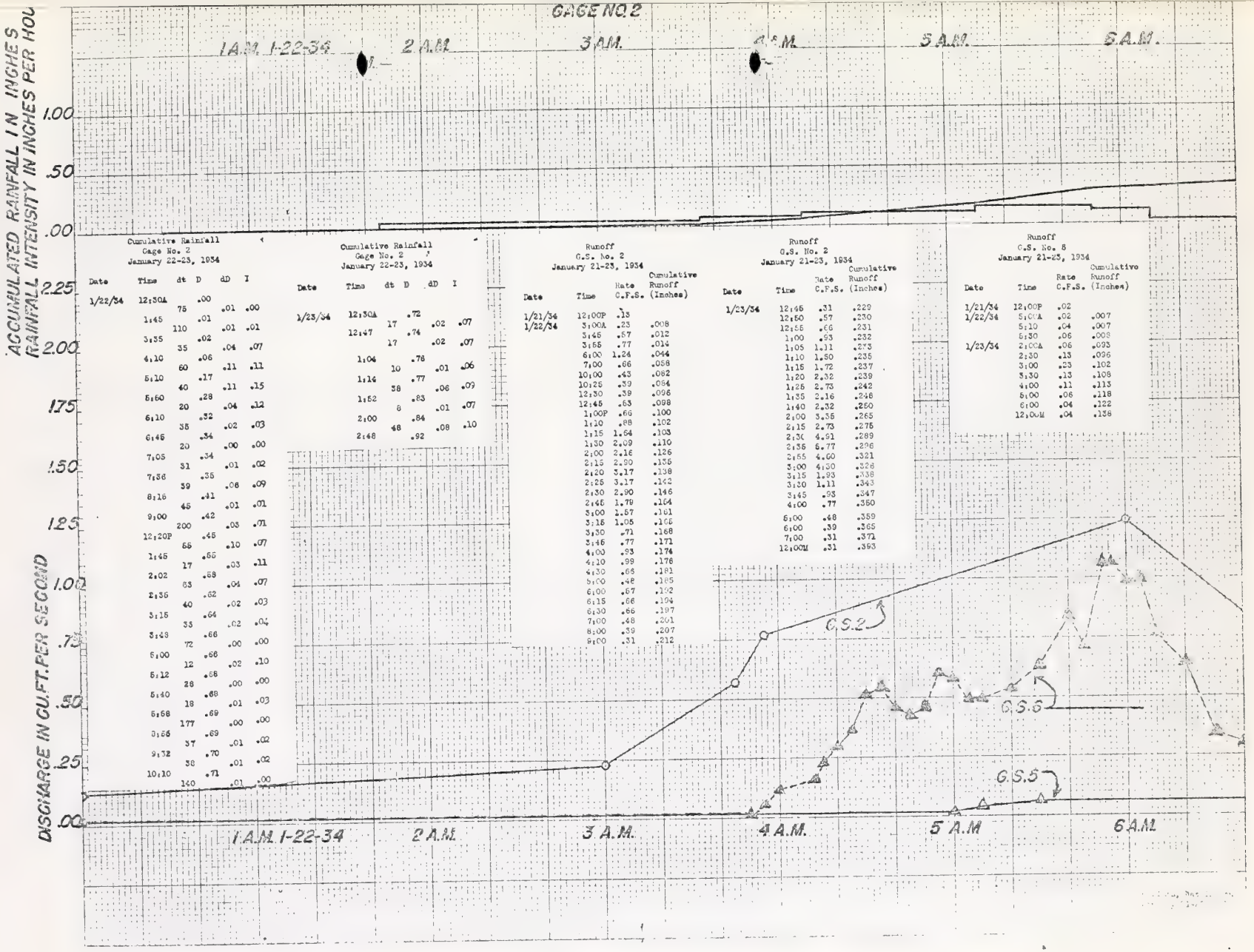
	Terrace 17	Terrace 18	G. S. 4
Area acres	.92	1.18	2.33
Preceding Rain (in.)	.04	.04	.04
date began	3:15A 1/13/34	3:15A 1/13/34	3:15A 1/13/34
duration (hours)	13.9	13.9	13.9
Temperature (max. & min.)	44-31	44-31	44-31
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	98%	98%	88%
Slope, average (percent)	20.2%	20.2%	16%
maximum	30-35	25-30	20-25%
Cover, type	W. wheat on fallow	W. wheat on fallow	W. wheat on fallow
height (ft.)	00-0.1' tall	00-0.1' tall	00-0.1' tall
date last cultivated	Planted Oct. 1934	Planted Oct. 1934	Planted Oct. 1934
Soil loss (tons per acre)	.018	.006	.374
Remarks			

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 2

Plot by L.W.N. date 11/21/40 checked by _____ date _____
Computations by L.W.N. date 11/19/40 checked by _____ date _____

Pullman, Washington
January 13, 1934
Sheet 2 of 2



Cumulative Rainfall
Gage No. 2
January 22-23, 1934

Date	Time	dt	D	dD	I
1/22/34	12:30A		.00		
		75		.01	.00
	1:45		.01		
		110		.01	.01
	3:35		.02		
		35		.04	.07
	4:10		.06		
		60		.11	.11
	5:10		.17		
		40		.11	.15
	5:50		.28		
		20		.04	.12
	6:10		.32		
		35		.02	.03
	6:45		.34		
		20		.00	.00
	7:05		.34		
		31		.01	.02
	7:36		.35		
		39		.06	.09
	8:15		.41		
		45		.01	.01
	9:00		.42		
		200		.03	.01
	12:20P		.45		
		55		.10	.07
	1:45		.55		
		17		.03	.11
	2:02		.58		
		63		.04	.07
	2:36		.62		
		40		.02	.03
	3:15		.64		
		33		.02	.04
	3:48		.66		
		72		.00	.00
	5:00		.66		
		12		.02	.10
	5:12		.68		
		28		.00	.00
	5:40		.68		
		18		.01	.03
	5:58		.69		
		177		.00	.00
	8:55		.69		
		37		.01	.02
	9:32		.70		
		38		.01	.02
	10:10		.71		
		140		.01	.00

Cumulative Rainfall
Gage No. 2
January 22-23, 1934

Date	Time	dt	D	dD	I
1/23/34	12:30A		.72		
		17		.02	.07
	12:47		.74		
		17		.02	.07
	1:04		.76		
		10		.01	.06
	1:14		.77		
		38		.06	.09
	1:52		.83		
		8		.01	.07
	2:00		.84		
		48		.08	.10
	2:48		.92		

Runoff
G.S. No. 2
January 21-23, 1934

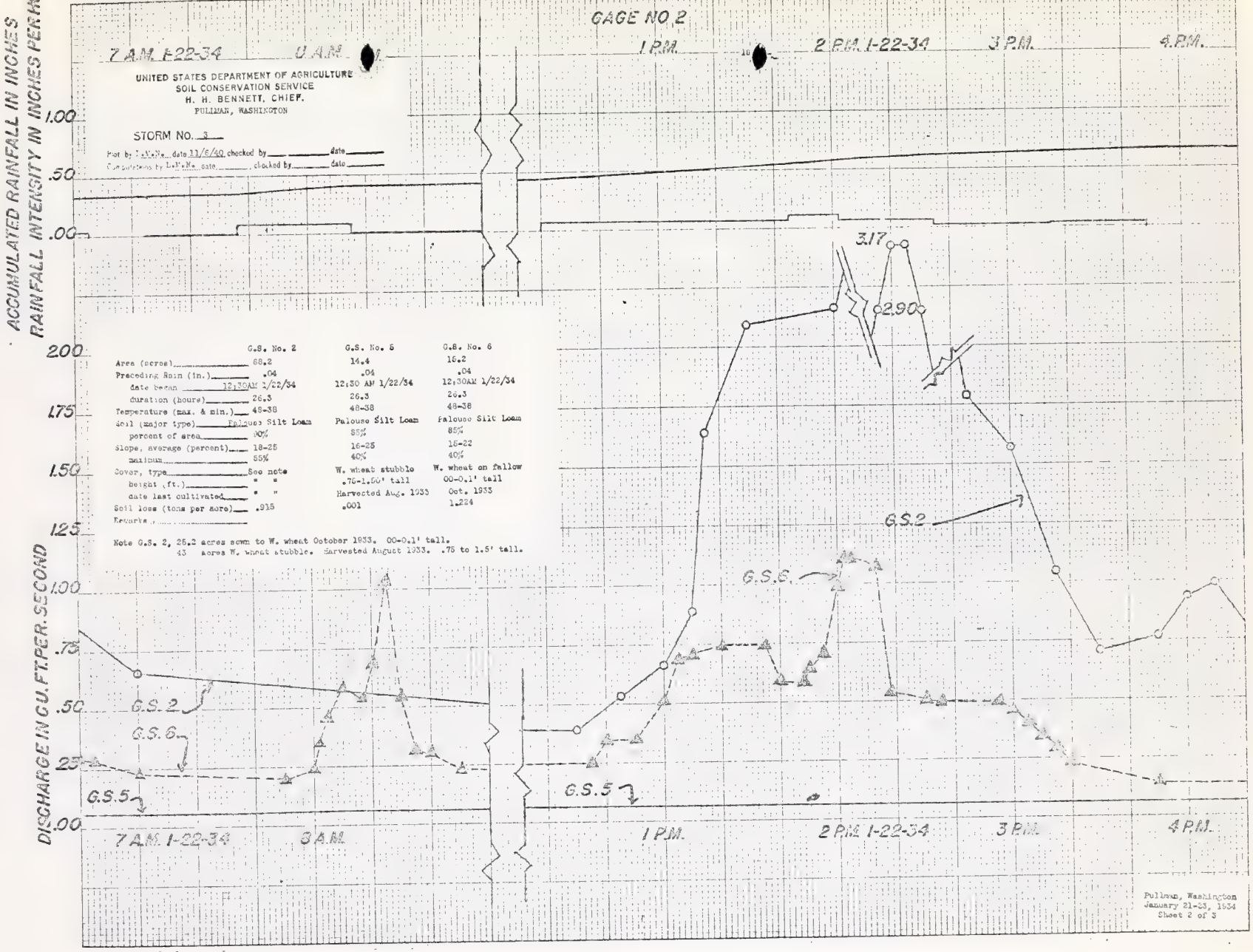
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/21/34	12:00P	.13	
1/22/34	3:00A	.23	.008
	3:45	.57	.012
	3:55	.77	.014
	6:00	1.24	.044
	7:00	.66	.058
	10:00	.43	.082
	10:25	.39	.084
	12:30	.39	.096
	12:45	.63	.098
	1:00P	.66	.100
	1:10	.88	.102
	1:15	1.64	.103
	1:30	2.09	.110
	2:00	2.16	.126
	2:15	2.90	.135
	2:20	3.17	.138
	2:25	3.17	.142
	2:30	2.90	.146
	2:45	1.79	.164
	3:00	1.57	.181
	3:15	1.05	.185
	3:30	.71	.188
	3:45	.77	.171
	4:00	.93	.174
	4:10	.99	.176
	4:30	.65	.181
	5:00	.48	.185
	6:00	.67	.192
	6:15	.66	.194
	6:30	.66	.197
	7:00	.48	.201
	8:00	.39	.207
	9:00	.31	.212

Runoff
G.S. No. 2
January 21-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/23/34	12:45	.31	.229
	12:50	.57	.230
	12:55	.66	.231
	1:00	.93	.232
	1:05	1.11	.233
	1:10	1.50	.235
	1:15	1.72	.237
	1:20	2.32	.239
	1:25	2.73	.242
	1:35	2.16	.248
	1:40	2.32	.250
	2:00	3.36	.265
	2:15	2.73	.275
	2:30	4.91	.289
	2:35	5.77	.296
	2:55	4.60	.321
	3:00	4.50	.328
	3:15	1.93	.338
	3:30	1.11	.343
	3:45	.93	.347
	4:00	.77	.350
	5:00	.48	.359
	6:00	.39	.365
	7:00	.31	.371
	12:00M	.31	.393

Runoff
G.S. No. 5
January 21-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/21/34	12:00P	.02	
1/22/34	5:00A	.02	.007
	5:10	.04	.007
	5:30	.06	.008
1/23/34	2:00A	.06	.093
	2:30	.13	.096
	3:00	.23	.102
	3:30	.13	.108
	4:00	.11	.113
	5:00	.08	.118
	6:00	.04	.122
	12:00M	.04	.136



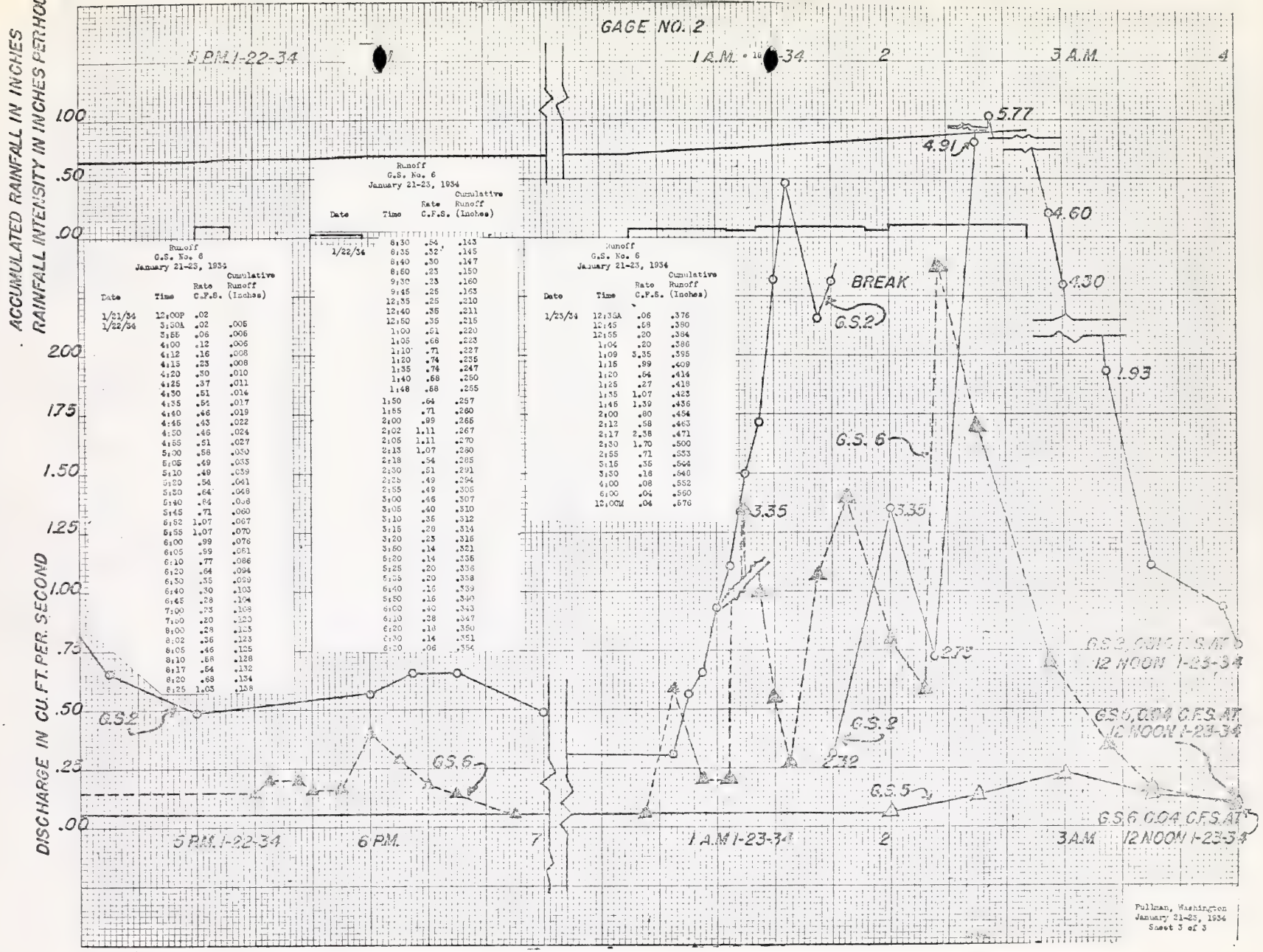
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

STORM No. 3

Plot by L.W.N. date 11/6/40 checked by _____ date _____
Computations by L.W.N. date _____ checked by _____ date _____

	G.S. No. 2	G.S. No. 5	G.S. No. 6
Area (acres)	68.2	14.4	16.2
Preceding Rain (in.)	.04	.04	.04
date began	12:30AM 1/22/34	12:30 AM 1/22/34	12:30AM 1/22/34
duration (hours)	26.3	26.3	26.3
Temperature (max. & min.)	48-38	48-38	48-38
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%	85%
Slope, average (percent)	18-25	16-25	15-22
maximum	55%	40%	40%
Cover, type	See note	W. wheat stubble	W. wheat on fallow
height (ft.)	" "	.75-1.50' tall	00-0.1' tall
date last cultivated	" "	Harvested Aug. 1933	Oct. 1933
Soil loss (tons per acre)	.915	.001	1.224
Remarks			

Note G.S. 2, 25.2 acres sown to W. wheat October 1933. 00-0.1' tall.
43 acres W. wheat stubble. Harvested August 1933. .75 to 1.5' tall.



Runoff
G.S. No. 6
January 21-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/21/34	12:00P	.02	
1/22/34	3:30A	.02	.005
	3:55	.06	.006
	4:00	.12	.006
	4:12	.16	.008
	4:15	.23	.008
	4:20	.30	.010
	4:25	.37	.011
	4:30	.51	.014
	4:35	.52	.017
	4:40	.46	.019
	4:45	.43	.022
	4:50	.46	.024
	4:55	.51	.027
	5:00	.56	.030
	5:05	.49	.033
	5:10	.49	.039
	5:20	.54	.041
	5:30	.64	.048
	5:40	.84	.058
	5:45	.71	.060
	5:52	1.07	.067
	5:55	1.07	.070
	6:00	.99	.076
	6:05	.99	.081
	6:10	.77	.086
	6:20	.64	.094
	6:30	.55	.099
	6:40	.30	.103
	6:45	.28	.104
	7:00	.23	.108
	7:00	.20	.120
	8:00	.28	.123
	8:02	.36	.123
	8:05	.46	.125
	8:10	.56	.128
	8:17	.54	.132
	8:20	.68	.134
	8:25	1.03	.138

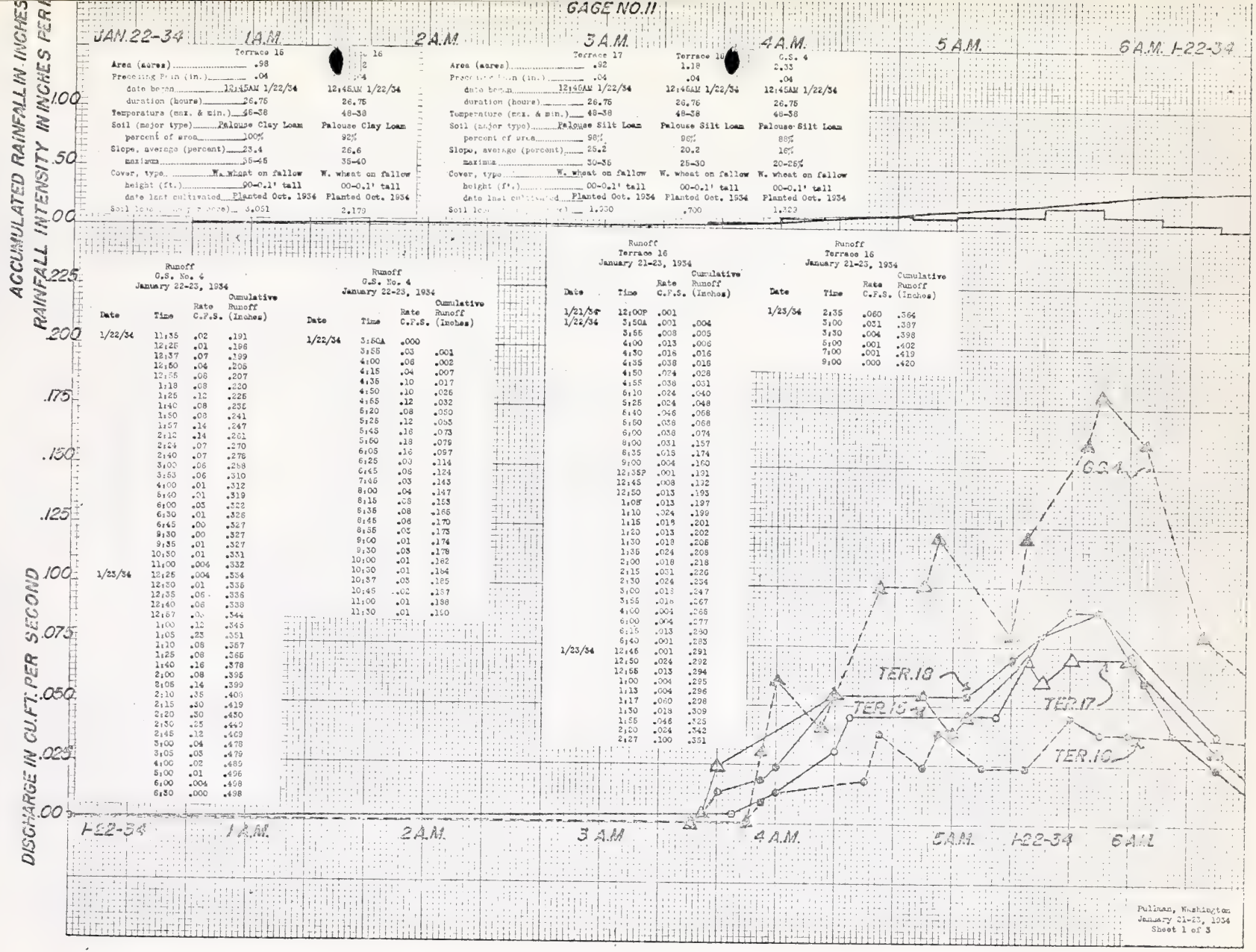
Runoff
G.S. No. 6
January 21-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/22/34	8:30	.54	.143
	8:35	.32	.145
	8:40	.30	.147
	8:50	.23	.150
	9:30	.23	.160
	9:45	.25	.163
	12:35	.25	.210
	12:40	.35	.211
	12:50	.35	.216
	1:00	.51	.220
	1:05	.66	.223
	1:10	.71	.227
	1:20	.74	.235
	1:35	.74	.247
	1:40	.68	.250
	1:48	.58	.255
	1:50	.64	.257
	1:55	.71	.260
	2:00	.99	.265
	2:02	1.11	.267
	2:05	1.11	.270
	2:13	1.07	.280
	2:18	.54	.285
	2:30	.51	.291
	2:35	.49	.294
	2:55	.49	.305
	3:00	.46	.307
	3:05	.40	.310
	3:10	.35	.312
	3:15	.28	.314
	3:20	.23	.316
	3:50	.14	.321
	5:20	.14	.335
	5:25	.20	.336
	5:35	.20	.338
	6:40	.16	.339
	6:50	.16	.340
	6:00	.40	.343
	6:10	.28	.347
	6:20	.18	.350
	6:30	.14	.351
	6:20	.06	.354

Runoff
G.S. No. 6
January 21-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/23/34	12:35A	.06	.376
	12:45	.08	.380
	12:55	.20	.384
	1:04	.20	.386
	1:09	3.35	.395
	1:15	.99	.409
	1:20	.64	.414
	1:25	.27	.418
	1:35	1.07	.423
	1:45	1.39	.436
	2:00	.80	.454
	2:12	.58	.463
	2:17	2.38	.471
	2:30	1.70	.500
	2:55	.71	.533
	3:15	.35	.544
	3:50	.18	.560
	4:00	.08	.552
	6:00	.04	.560
	12:00M	.04	.576

Pullman, Washington
January 21-23, 1934
Sheet 3 of 3



	Terrace 16		
Area (acres)	.98		
Preceding Rain (in.)	.04		
date began	12:45AM 1/22/34	12:45AM 1/22/34	
duration (hours)	26.75	26.75	
Temperature (max. & min.)	48-38	48-38	
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam	
percent of area	100%	92%	
Slope, average (percent)	23.4	26.6	
maximum	35-45	35-40	
Cover, type	W. wheat on fallow	W. wheat on fallow	
height (ft.)	00-0.1' tall	00-0.1' tall	
date last cultivated	Planted Oct. 1934	Planted Oct. 1934	
Soil loss (lbs. per acre)	3.051	2.179	

	Terrace 17	Terrace 16	G.S. 4
Area (acres)	.92	1.18	2.33
Preceding Rain (in.)	.04	.04	.04
date began	12:45AM 1/22/34	12:45AM 1/22/34	12:45AM 1/22/34
duration (hours)	26.75	26.75	26.75
Temperature (max. & min.)	48-38	48-38	48-38
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	98%	96%	88%
Slope, average (percent)	25.2	20.2	16%
maximum	30-35	25-30	20-25%
Cover, type	W. wheat on fallow	W. wheat on fallow	W. wheat on fallow
height (ft.)	00-0.1' tall	00-0.1' tall	00-0.1' tall
date last cultivated	Planted Oct. 1934	Planted Oct. 1934	Planted Oct. 1934
Soil loss (lbs. per acre)	1.330	.700	1.323

Runoff
G.S. No. 4
January 22-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/22/34	11:35	.02	.191
	12:25	.01	.196
	12:37	.07	.199
	12:50	.04	.205
	12:55	.08	.207
	1:18	.08	.220
	1:25	.12	.225
	1:40	.08	.235
	1:50	.08	.241
	1:57	.14	.247
	2:12	.14	.261
	2:24	.07	.270
	2:40	.07	.276
	3:00	.06	.288
	3:53	.06	.310
	4:00	.01	.312
	5:40	.01	.319
	6:00	.03	.322
	6:30	.01	.326
	6:45	.00	.327
	9:30	.00	.327
	9:35	.01	.327
	10:30	.01	.331
	11:00	.006	.332
1/23/34	12:25	.004	.334
	12:30	.01	.335
	12:35	.05	.338
	12:40	.08	.338
	12:57	.[illegible]	.344
	1:00	.12	.345
	1:05	.23	.351
	1:10	.08	.357
	1:25	.08	.365
	1:40	.16	.378
	2:00	.08	.395
	2:05	.14	.399
	2:10	.35	.409
	2:15	.30	.419
	2:20	.30	.430
	2:30	.25	.449
	2:45	.12	.469
	3:00	.04	.478
	3:05	.03	.479
	4:00	.02	.489
	5:00	.01	.496
	6:00	.004	.498
	6:30	.000	.498

Runoff
G.S. No. 4
January 22-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/22/34	3:50A	.000	
	3:55	.03	.001
	4:00	.06	.002
	4:15	.04	.007
	4:35	.10	.017
	4:50	.10	.026
	4:55	.12	.032
	5:20	.08	.050
	5:25	.12	.055
	5:45	.16	.073
	5:50	.18	.079
	6:05	.16	.097
	6:25	.03	.114
	6:45	.06	.124
	7:45	.03	.143
	8:00	.04	.147
	8:15	.08	.153
	8:35	.08	.165
	8:45	.08	.170
	8:55	.05	.173
	9:00	.01	.174
	9:30	.03	.178
	10:00	.01	.182
	10:30	.01	.184
	10:37	.03	.185
	10:45	.02	.187
	11:00	.01	.188
	11:30	.01	.190

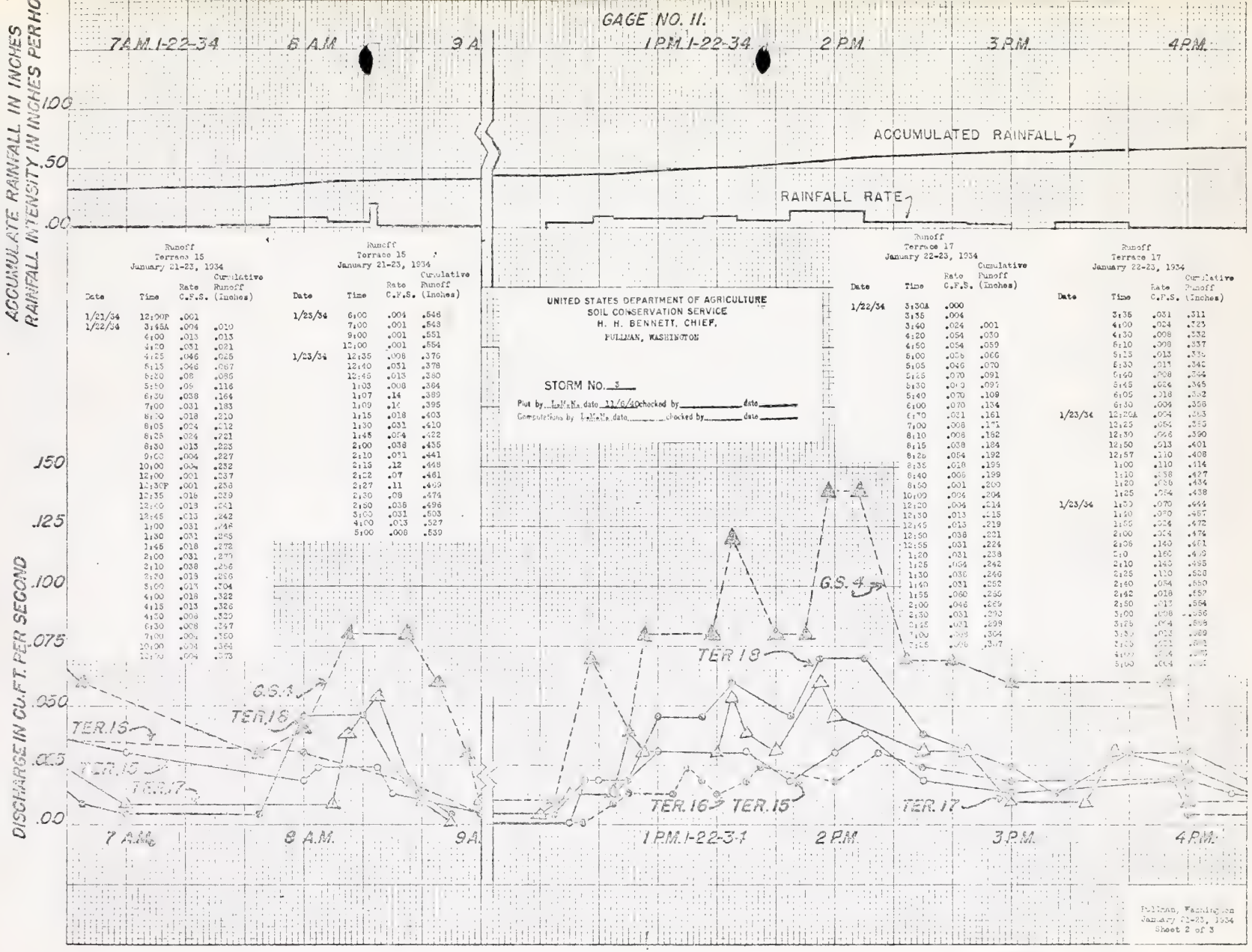
Runoff
Terrace 16
January 21-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/21/34	12:00P	.001	
1/22/34	3:50A	.001	.004
	3:55	.008	.005
	4:00	.013	.006
	4:30	.016	.016
	4:35	.038	.016
	4:50	.024	.028
	4:55	.038	.031
	5:10	.024	.040
	5:25	.024	.048
	5:40	.046	.068
	5:50	.038	.068
	6:00	.038	.074
	8:00	.031	.157
	8:35	.015	.174
	9:00	.004	.160
	12:35P	.001	.191
	12:45	.008	.192
	12:50	.013	.193
	1:05	.013	.197
	1:10	.024	.199
	1:15	.018	.201
	1:20	.013	.202
	1:30	.018	.205
	1:35	.024	.208
	2:00	.018	.218
	2:15	.031	.226
	2:30	.024	.234
	3:00	.018	.247
	3:55	.016	.267
	4:00	.004	.268
	6:00	.004	.277
	6:15	.013	.280
	6:40	.001	.283
1/23/34	12:46	.001	.291
	12:50	.024	.292
	12:55	.013	.294
	1:00	.004	.295
	1:13	.004	.296
	1:17	.060	.298
	1:30	.018	.309
	1:55	.046	.325
	2:20	.024	.342
	2:27	.100	.351

Runoff
Terrace 16
January 21-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/23/34	2:35	.060	.364
	3:00	.031	.387
	3:30	.004	.398
	5:00	.001	.402
	7:00	.001	.419
	9:00	.000	.420

Pullman, Washington
January 21-23, 1934
Sheet 1 of 3



Runoff
Terrace 15
January 21-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/21/34	12:00P	.001	
1/22/34	3:45A	.004	.010
	4:00	.013	.013
	4:20	.031	.021
	4:25	.046	.025
	5:15	.046	.067
	5:20	.08	.085
	5:50	.05	.116
	6:30	.038	.164
	7:00	.031	.183
	8:00	.018	.210
	8:05	.024	.212
	8:25	.024	.221
	8:30	.013	.223
	9:00	.004	.227
	10:00	.004	.232
	12:00	.001	.237
	12:30P	.001	.238
	12:35	.016	.239
	12:40	.018	.241
	12:45	.013	.242
	1:00	.031	.246
	1:30	.031	.265
	1:45	.018	.272
	2:00	.031	.275
	2:10	.038	.256
	2:30	.018	.286
	3:00	.013	.304
	4:00	.018	.322
	4:15	.013	.326
	4:50	.008	.322
	6:30	.008	.347
	7:00	.004	.350
	10:00	.004	.364
	12:00	.004	.373

Runoff
Terrace 15
January 21-23, 1934

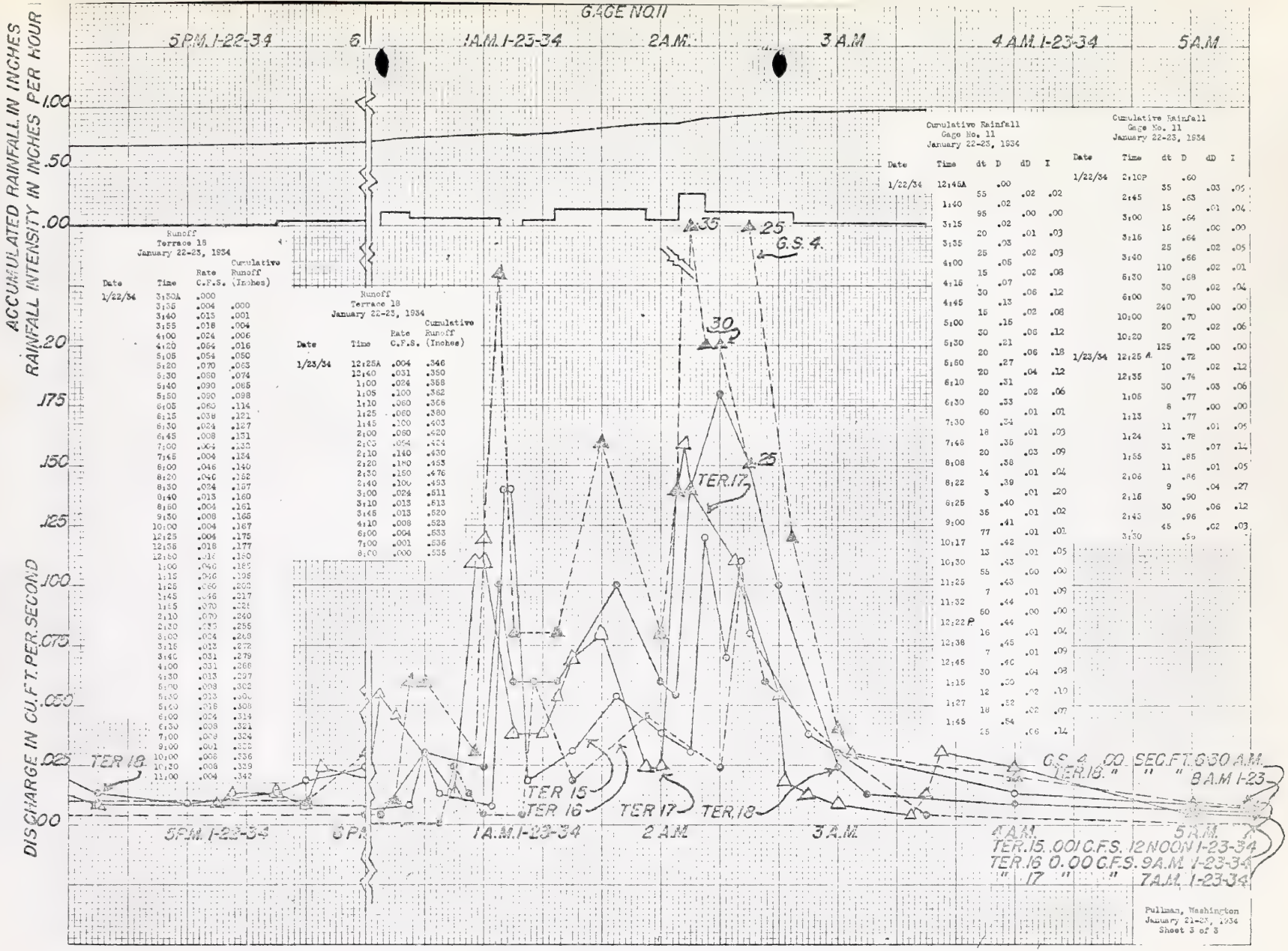
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/23/34	6:00	.004	.548
	7:00	.001	.543
	9:00	.001	.551
	12:00	.001	.554
1/23/34	12:35	.008	.376
	12:40	.031	.378
	12:45	.013	.380
	1:03	.008	.384
	1:07	.14	.389
	1:09	.1[illegible]	.395
	1:15	.018	.403
	1:30	.031	.410
	1:45	.024	.422
	2:00	.038	.435
	2:10	.051	.441
	2:15	.12	.448
	2:22	.07	.461
	2:27	.11	.469
	2:30	.09	.474
	2:50	.038	.496
	3:00	.031	.503
	4:00	.013	.527
	5:00	.008	.539

Runoff
Terrace 17
January 22-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/22/34	3:30A	.000	
	3:35	.004	
	3:40	.024	.001
	4:20	.054	.030
	4:50	.054	.059
	5:00	.038	.066
	5:05	.046	.070
	5:25	.070	.091
	5:30	.070	.097
	5:40	.070	.109
	6:00	.070	.134
	6:30	.031	.161
	7:00	.008	.171
	8:10	.008	.182
	8:15	.038	.184
	8:25	.054	.192
	8:35	.018	.195
	8:40	.005	.199
	8:50	.001	.200
	10:00	.004	.204
	12:20	.004	.214
	12:30	.013	.215
	12:45	.013	.219
	12:50	.038	.221
	12:55	.031	.224
	1:20	.031	.238
	1:25	.054	.242
	1:30	.036	.246
	1:40	.031	.252
	1:55	.060	.255
	2:00	.046	.269
	2:30	.031	.293
	2:45	.031	.298
	3:00	.[illegible]	.304
	3:15	.[illegible]	.307

Runoff
Terrace 17
January 22-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
	3:35	.031	.311
	4:00	.024	.323
	4:30	.008	.332
	4:50	.008	.337
	5:15	.013	.339
	5:30	.013	.342
	5:40	.008	.344
	5:45	.024	.345
	6:05	.018	.352
	6:30	.004	.358
1/23/34	12:20A	.004	.363
	12:25	.054	.365
	12:30	.046	.390
	12:50	.013	.401
	12:57	.110	.408
	1:00	.110	.414
	1:10	.038	.427
	1:20	.038	.434
	1:25	.054	.438
1/23/34	1:35	.070	.444
	1:40	.070	.457
	1:55	.054	.472
	2:00	.054	.474
	2:05	.140	.481
	2:0	.160	.492
	2:10	.140	.495
	2:25	.110	.508
	2:40	.054	.550
	2:42	.018	.557
	2:50	.013	.564
	3:00	.008	.566
	3:25	.004	.568
	3:30	.013	.569
	3:50	.021	.572
	4:00	.004	.573
	5:00	.004	.577



Runoff
Terrace 18
January 22-23, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/22/34	3:30A	.000	
	3:35	.004	.000
	3:40	.013	.001
	3:55	.018	.004
	4:00	.024	.006
	4:20	.064	.016
	5:05	.054	.050
	5:20	.070	.063
	5:30	.080	.074
	5:40	.090	.085
	5:50	.090	.098
	6:05	.080	.114
	6:15	.038	.121
	6:30	.024	.127
	6:45	.008	.131
	7:00	.004	.133
	7:45	.004	.134
	8:00	.046	.140
	8:20	.046	.152
	8:30	.024	.157
	8:40	.013	.160
	8:50	.004	.161
	9:50	.008	.165
	10:00	.004	.167
	12:25	.004	.175
	12:35	.018	.177
	12:50	.018	.180
	1:00	.046	.185
	1:15	.036	.195
	1:25	.066	.202
	1:45	.046	.217
	1:55	.070	.225
	2:10	.070	.240
	2:30	.033	.255
	3:00	.024	.268
	3:15	.013	.272
	3:40	.031	.279
	4:00	.031	.288
	4:30	.013	.297
	5:00	.008	.302
	5:30	.013	.306
	5:40	.016	.308
	6:00	.024	.314
	6:30	.038	.321
	7:00	.008	.324
	9:00	.001	.332
	10:00	.008	.336
	10:30	.008	.339
	11:00	.004	.342

Runoff
Terrace 18
January 22-23, 1934

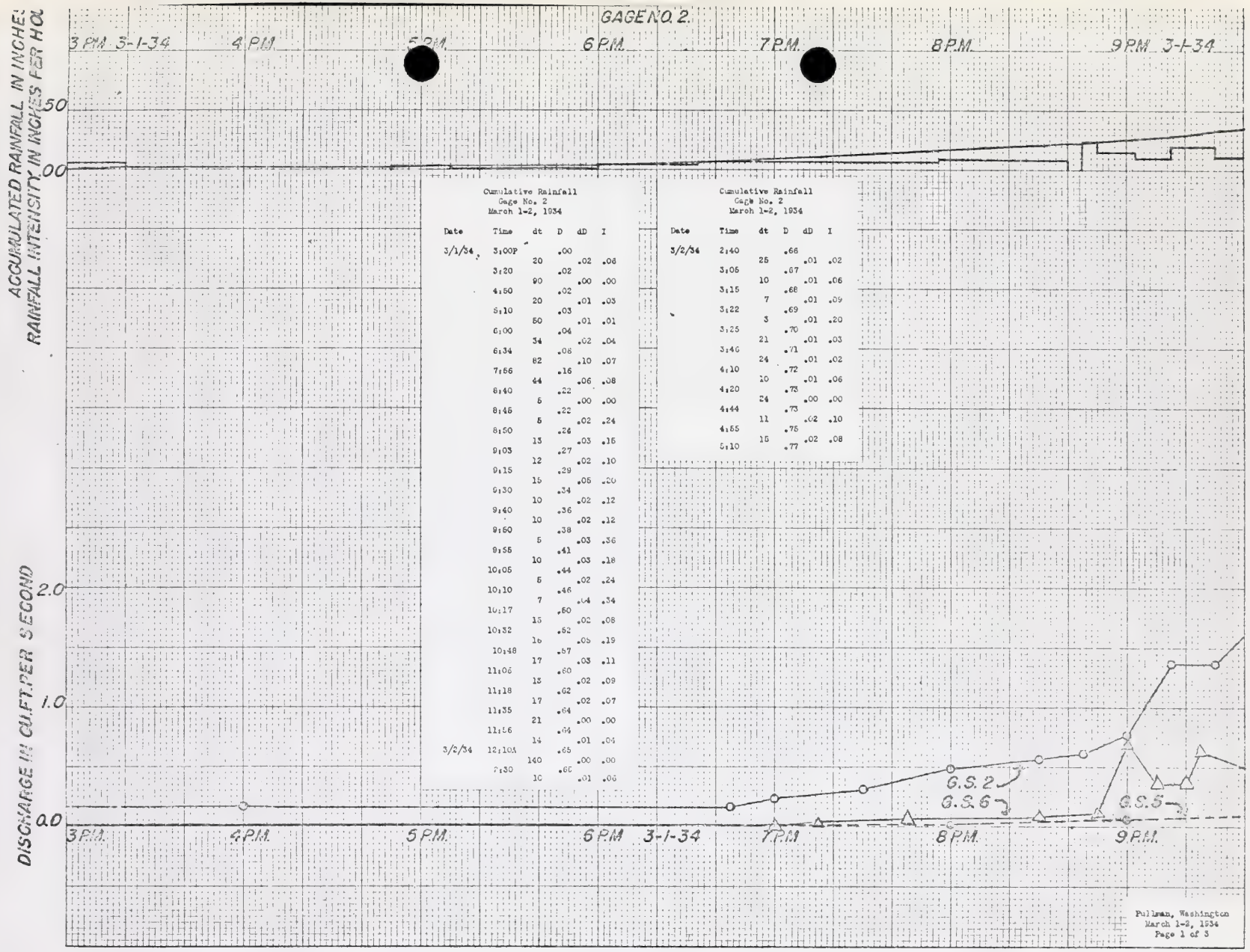
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/23/34	12:25A	.004	.346
	12:40	.031	.350
	1:00	.024	.368
	1:05	.100	.362
	1:10	.080	.366
	1:25	.080	.380
	1:45	.100	.403
	2:00	.080	.420
	2:05	.054	.424
	2:10	.140	.430
	2:20	.180	.453
	2:30	.150	.476
	2:40	.100	.493
	3:00	.024	.511
	3:10	.013	.513
	3:45	.013	.520
	4:10	.008	.523
	6:00	.004	.533
	7:00	.001	.536
	8:00	.000	.535

Cumulative Rainfall
Gage No. 11
January 22-23, 1934

Date	Time	dt	D	dD	I
1/22/34	12:45A		.00		
	1:40	55	.02	.02	.02
	3:15	95	.02	.00	.00
	3:35	20	.02	.01	.03
	4:00	25	.03	.02	.03
	4:15	15	.05	.02	.08
	4:45	30	.07	.06	.12
	5:00	15	.13	.02	.08
	5:30	30	.15	.06	.12
	5:50	20	.21	.06	.18
	6:10	20	.27	.04	.12
	6:30	20	.31	.02	.06
	7:30	60	.33	.01	.01
	7:48	18	.34	.01	.03
	8:08	20	.36	.03	.09
	8:22	14	.38	.01	.04
	8:25	3	.39	.01	.20
	9:00	35	.40	.01	.02
	10:17	77	.41	.01	.01
	10:30	13	.42	.01	.05
	11:25	55	.43	.00	.00
	11:32	7	.43	.01	.09
	12:22P	50	.44	.00	.00
	12:38	16	.44	.01	.04
	12:45	7	.45	.01	.09
	1:15	30	.46	.04	.08
	1:27	12	.50	.02	.10
	1:45	18	.52	.02	.07
		25	.54	.06	.14

Cumulative Rainfall
Gage No. 11
January 22-23, 1934

Date	Time	dt	D	dD	I
1/22/34	2:10P		.60		
	2:45	35	.63	.03	.05
	3:00	15	.64	.01	.04
	3:16	16	.64	.00	.00
	3:40	25	.66	.02	.05
	5:30	110	.68	.02	.01
	6:00	30	.70	.02	.04
	10:00	240	.70	.00	.00
	10:20	20	.72	.02	.06
1/23/34	12:25 A.	125	.72	.00	.00
	12:35	10	.74	.02	.12
	1:05	30	.77	.03	.06
	1:13	8	.77	.00	.00
	1:24	11	.78	.01	.05
	1:55	31	.85	.07	.14
	2:06	11	.86	.01	.05
	2:16	9	.90	.04	.27
	2:45	30	.96	.06	.12
	3:30	45	.99	.02	.03

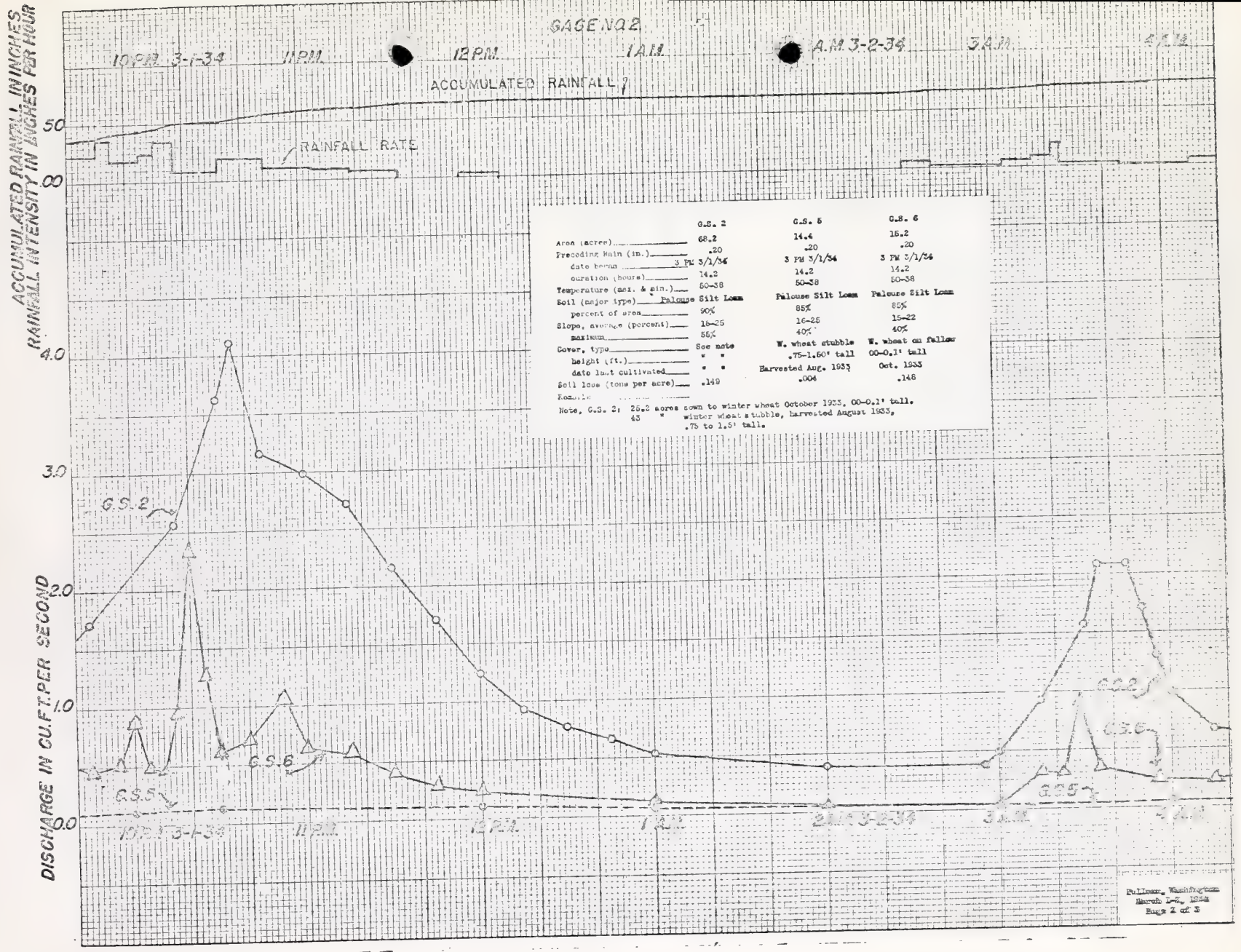


Cumulative Rainfall
Gage No. 2
March 1-2, 1934

Date	Time	dt	D	dD	I
3/1/34	3:00P		.00		
	3:20	20	.02	.02	.06
	4:50	90	.02	.00	.00
	5:10	20	.03	.01	.03
	6:00	50	.04	.01	.01
	6:34	34	.06	.02	.04
	7:56	82	.16	.10	.07
	8:40	44	.22	.06	.08
	8:45	5	.22	.00	.00
	8:50	5	.24	.02	.24
	9:03	13	.27	.03	.16
	9:15	12	.29	.02	.10
	9:30	15	.34	.05	.20
	9:40	10	.36	.02	.12
	9:50	10	.38	.02	.12
	9:55	5	.41	.03	.36
	10:05	10	.44	.03	.18
	10:10	5	.46	.02	.24
	10:17	7	.50	.04	.34
	10:32	15	.52	.02	.08
	10:48	16	.57	.05	.19
	11:05	17	.60	.03	.11
	11:18	13	.62	.02	.09
	11:35	17	.64	.02	.07
	11:56	21	.64	.00	.00
		14		.01	.04
3/2/34	12:10A	140	.65	.00	.00
	2:30	10	.66	.01	.06

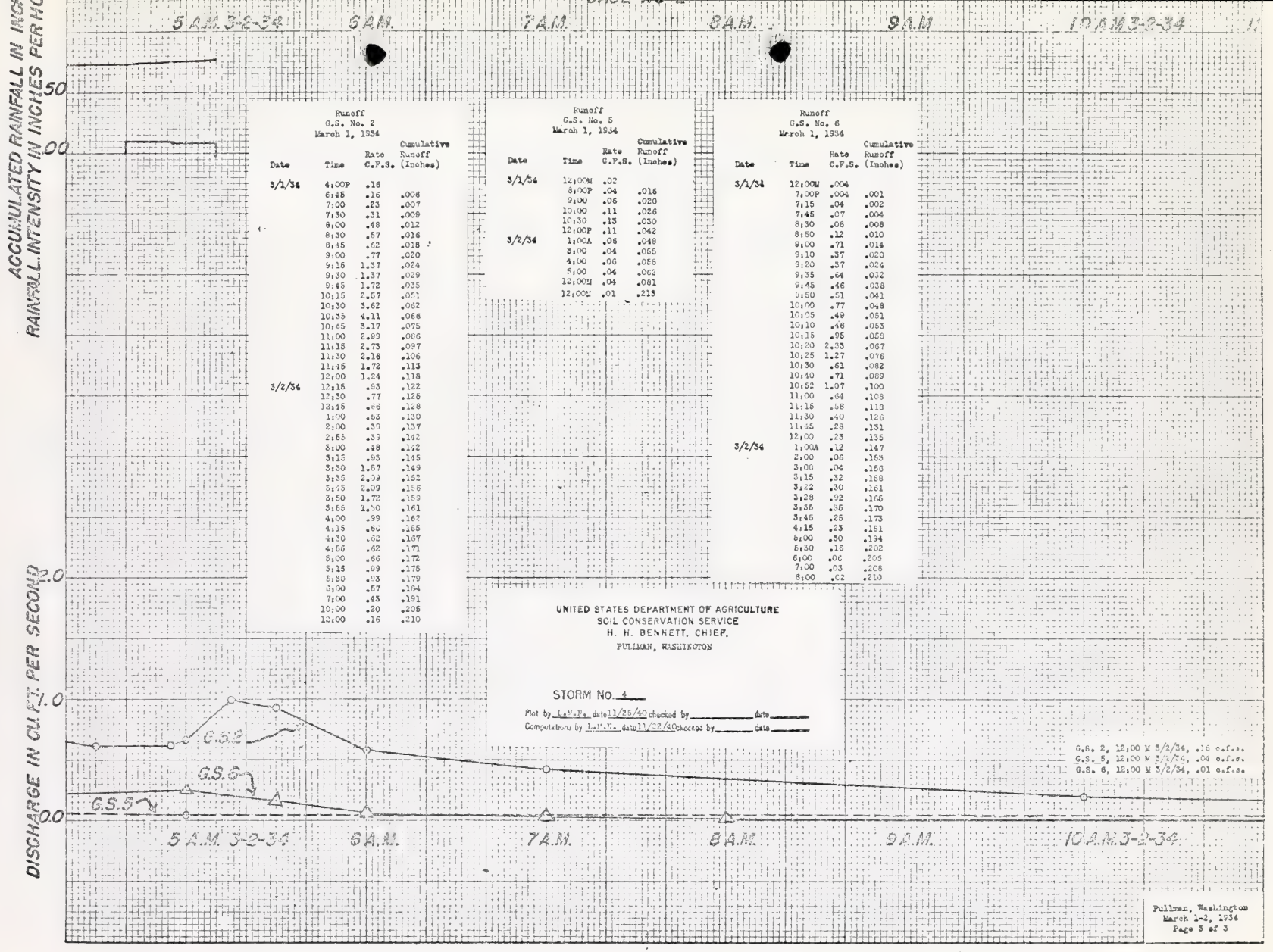
Cumulative Rainfall
Gage No. 2
March 1-2, 1934

Date	Time	dt	D	dD	I
3/2/34	2:40		.66		
	3:05	25	.67	.01	.02
	3:15	10	.68	.01	.06
	3:22	7	.69	.01	.09
	3:25	3	.70	.01	.20
	3:46	21	.71	.01	.03
	4:10	24	.72	.01	.02
	4:20	10	.73	.01	.06
	4:44	24	.73	.00	.00
	4:55	11	.75	.02	.10
	5:10	15	.77	.02	.08



	G.S. 2	G.S. 5	G.S. 6
Area (acres)	68.2	14.4	15.2
Preceding Rain (in.)	.20	.20	.20
date begun	3 PM 3/1/34	3 PM 3/1/34	3 PM 3/1/34
duration (hours)	14.2	14.2	14.2
Temperature (max. & min.)	50-38	50-38	50-38
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%	85%
Slope, average (percent)	16-25	16-25	15-22
maximum	55%	40%	40%
Cover, type	See note	W. wheat stubble	W. wheat on fallow
height (ft.)	" "	.75-1.50' tall	00-0.1' tall
date last cultivated	" "	Harvested Aug. 1933	Oct. 1933
Soil loss (tons per acre)	.149	.004	.146
Remarks			

Note, G.S. 2: 25.2 acres sown to winter wheat October 1933, 00-0.1' tall.
43 " winter wheat stubble, harvested August 1933, .75 to 1.5' tall.



Runoff
G.S. No. 2
March 1, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/1/34	4:00P	.16	
	6:45	.16	.006
	7:00	.23	.007
	7:30	.31	.009
	8:00	.48	.012
	8:30	.57	.016
	8:45	.62	.018
	9:00	.77	.020
	9:15	1.37	.024
	9:30	1.37	.029
	9:45	1.72	.035
	10:15	2.57	.051
	10:30	3.62	.062
	10:35	4.11	.066
	10:45	3.17	.075
	11:00	2.99	.086
	11:15	2.73	.097
	11:30	2.16	.106
	11:45	1.72	.113
	12:00	1.24	.118
3/2/34	12:15	.93	.122
	12:30	.77	.126
	12:45	.66	.128
	1:00	.53	.130
	2:00	.39	.137
	2:55	.39	.142
	3:00	.48	.142
	3:15	.93	.145
	3:30	1.57	.149
	3:35	2.09	.152
	3:45	2.09	.156
	3:50	1.72	.159
	3:55	1.30	.161
	4:00	.99	.162
	4:15	.66	.165
	4:30	.62	.167
	4:55	.62	.171
	5:00	.66	.172
	5:15	.99	.175
	5:30	.93	.179
	6:00	.57	.184
	7:00	.43	.191
	10:00	.20	.206
	12:00	.16	.210

Runoff
G.S. No. 5
March 1, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/1/34	12:00M	.02	
	8:00P	.04	.016
	9:00	.06	.020
	10:00	.11	.026
	10:30	.13	.030
	12:00P	.11	.042
3/2/34	1:00A	.06	.048
	3:00	.04	.055
	4:00	.06	.058
	5:00	.04	.062
	12:00M	.04	.081
	12:00M	.01	.213

Runoff
G.S. No. 6
March 1, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/1/34	12:00M	.004	
	7:00P	.004	.001
	7:15	.04	.002
	7:45	.07	.004
	8:30	.08	.008
	8:50	.12	.010
	9:00	.71	.014
	9:10	.37	.020
	9:20	.37	.024
	9:35	.64	.032
	9:45	.46	.038
	9:50	.51	.041
	10:00	.77	.048
	10:05	.49	.051
	10:10	.46	.053
	10:15	.95	.058
	10:20	2.33	.067
	10:25	1.27	.076
	10:30	.61	.082
	10:40	.71	.089
	10:52	1.07	.100
	11:00	.64	.108
	11:15	.58	.118
	11:30	.40	.126
	11:45	.28	.131
	12:00	.23	.135
3/2/34	1:00A	.12	.147
	2:00	.06	.153
	3:00	.04	.156
	3:15	.32	.158
	3:22	.30	.161
	3:28	.92	.165
	3:35	.35	.170
	3:45	.25	.173
	4:15	.23	.181
	5:00	.30	.194
	5:30	.16	.202
	6:00	.06	.205
	7:00	.03	.208
	8:00	.02	.210

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 4

Plot by L.M.K. date 11/26/40 checked by _____ date _____
Computations by L.M.K. date 11/22/40 checked by _____ date _____

Pullman, Washington
March 1-2, 1934
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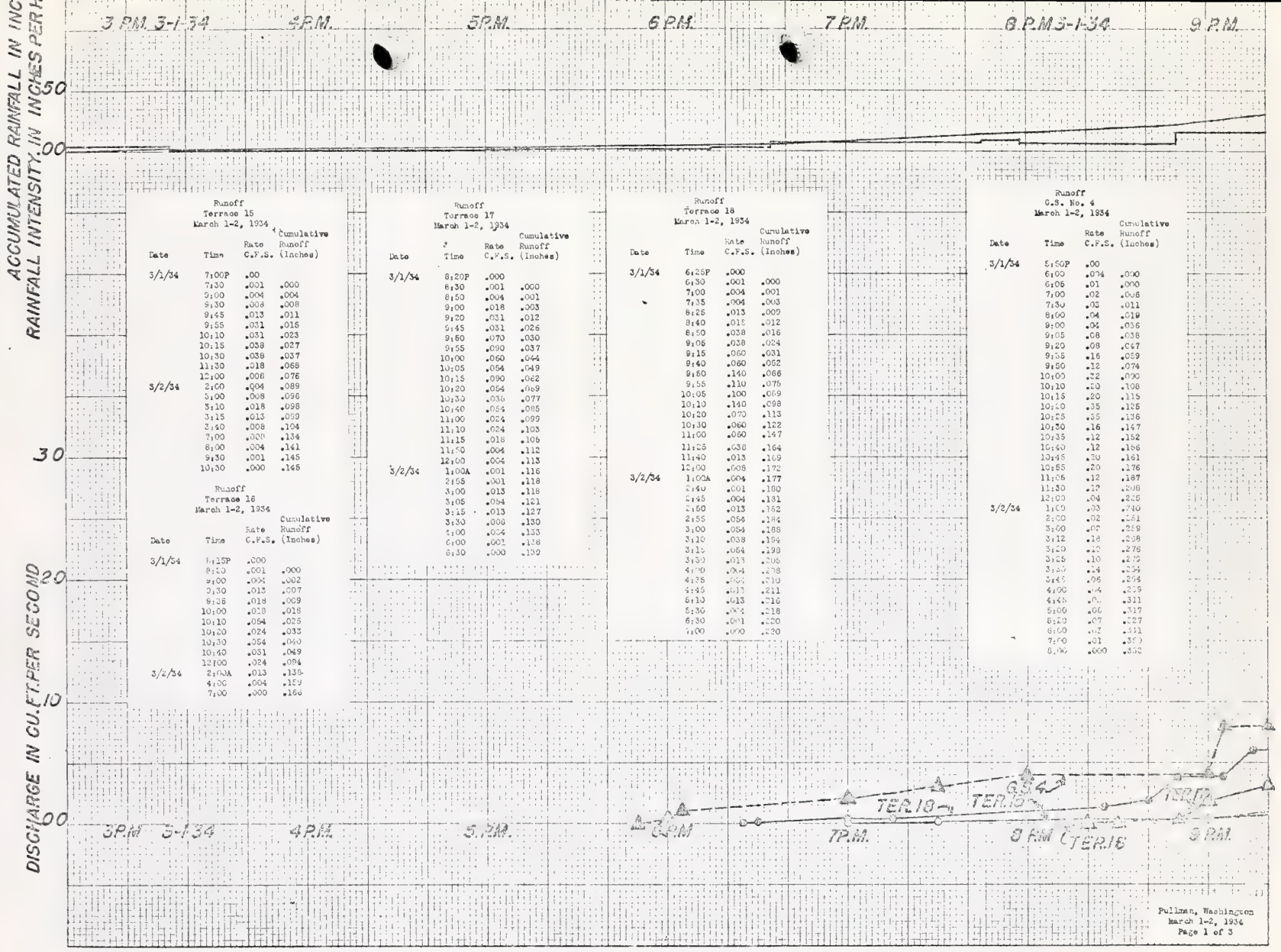

Runoff
Terrace 15
March 1-2, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/1/34	7:00P	.00	
	7:30	.001	.000
	9:00	.004	.004
	9:30	.008	.008
	9:45	.013	.011
	9:55	.031	.015
	10:10	.031	.023
	10:15	.038	.027
	10:30	.038	.037
	11:30	.018	.068
	12:00	.008	.076
3/2/34	2:00	.004	.089
	3:00	.008	.096
	3:10	.018	.098
	3:15	.013	.099
	3:40	.008	.104
	7:00	.000	.134
	8:00	.004	.141
	9:30	.001	.145
	10:30	.000	.145

Runoff
Terrace 16
March 1-2, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/1/34	8:15P	.000	
	8:20	.001	.000
	9:00	.004	.002
	9:30	.013	.007
	9:35	.018	.009
	10:00	.018	.018
	10:10	.054	.025
	10:20	.024	.033
	10:30	.054	.040
	10:40	.031	.049
	12:00	.024	.094
3/2/34	2:00A	.013	.135
	4:00	.004	.159
	7:00	.000	.166

Runoff
Terrace 17
March 1-2, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/1/34	8:20P	.000	
	8:30	.001	.000
	8:50	.004	.001
	9:00	.018	.003
	9:20	.031	.012
	9:45	.031	.026
	9:60	.070	.030
	9:55	.090	.037
	10:00	.060	.044
	10:05	.054	.049
	10:15	.090	.062
	10:20	.054	.069
	10:30	.036	.077
	10:40	.054	.085
	11:00	.024	.099
	11:10	.024	.103
	11:15	.018	.105
	11:50	.004	.112
	12:00	.004	.113
3/2/34	1:00A	.001	.116
	2:55	.001	.118
	3:00	.013	.118
	3:05	.054	.121
	3:15	.013	.127
	3:30	.008	.130
	4:00	.054	.133
	6:00	.001	.138
	6:30	.000	.139

Runoff
Terrace 18
March 1-2, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/1/34	6:25P	.000	
	6:30	.001	.000
	7:00	.004	.001
	7:35	.004	.003
	8:25	.013	.009
	8:40	.018	.012
	8:50	.038	.016
	9:05	.038	.024
	9:15	.060	.031
	9:40	.060	.052
	9:60	.140	.066
	9:55	.110	.075
	10:05	.100	.089
	10:10	.140	.098
	10:20	.070	.113
	10:30	.060	.122
	11:00	.060	.147
	11:25	.038	.164
	11:40	.013	.169
	12:00	.008	.172
3/2/34	1:00A	.004	.177
	2:40	.001	.180
	2:45	.004	.181
	2:50	.013	.182
	2:55	.054	.184
	3:00	.054	.188
	3:10	.038	.194
	3:15	.054	.198
	3:30	.013	.205
	4:00	.004	.208
	4:35	.001	.210
	4:45	.013	.211
	5:10	.013	.216
	5:30	.004	.218
	6:30	.001	.220
	7:00	.000	.220

Runoff
G.S. No. 4
March 1-2, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/1/34	5:50P	.00	
	6:00	.004	.000
	6:05	.01	.000
	7:00	.02	.006
	7:30	.03	.011
	8:00	.04	.019
	9:00	.04	.036
	9:05	.08	.038
	9:20	.08	.047
	9:35	.16	.059
	9:50	.12	.074
	10:00	.22	.090
	10:10	.20	.108
	10:15	.20	.115
	10:20	.35	.125
	10:25	.35	.136
	10:30	.16	.147
	10:35	.12	.152
	10:40	.12	.156
	10:45	.20	.161
	10:55	.20	.176
	11:05	.12	.187
	11:30	.12	.208
	12:00	.04	.225
3/2/34	1:00	.03	.240
	2:00	.02	.251
	3:00	.07	.259
	3:12	.18	.268
	3:20	.12	.276
	3:25	.10	.282
	3:30	.14	.284
	3:45	.06	.294
	4:00	.04	.299
	4:45	.06	.311
	5:00	.06	.317
	5:20	.07	.327
	6:00	.03	.341
	7:00	.01	.350
	8:00	.000	.352

Pullman, Washington
March 1-2, 1934
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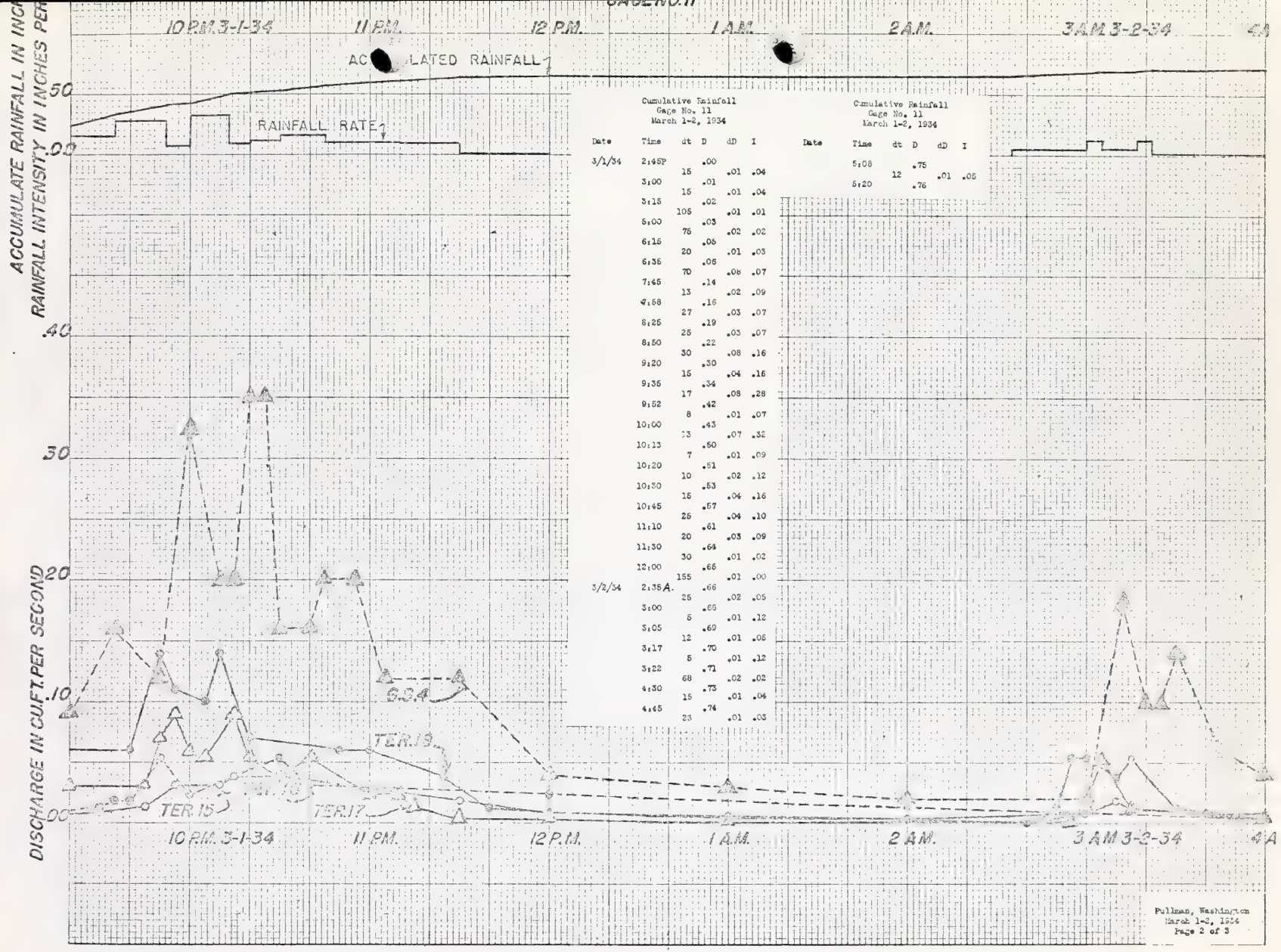
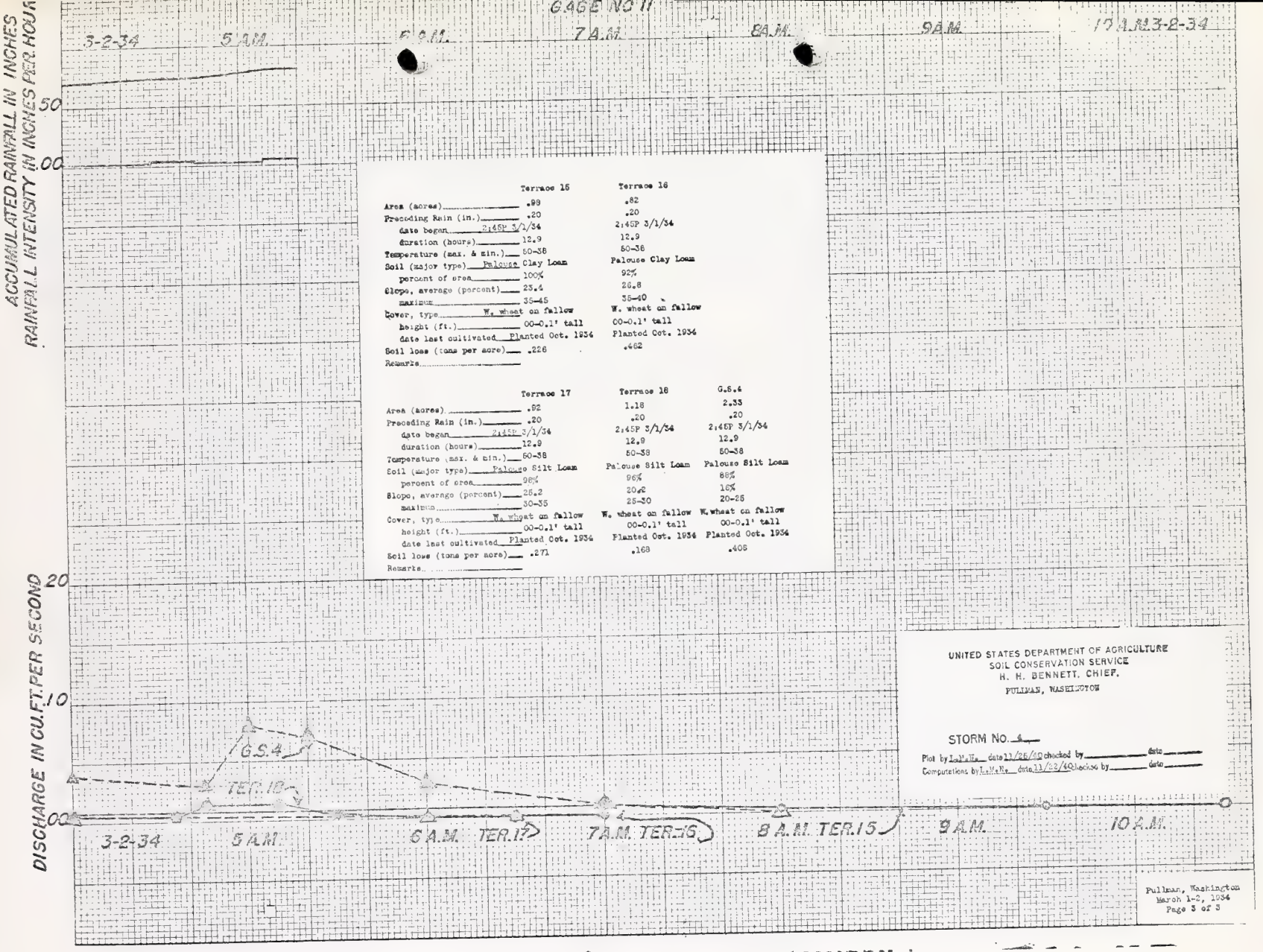


Cumulative Rainfall
Gage No. 11
March 1-2, 1934

Date	Time	dt	D	dD	I
3/1/34	2:45P		.00		
		15		.01	.04
	3:00		.01		
		15		.01	.04
	3:15		.02		
		105		.01	.01
	5:00		.03		
		75		.02	.02
	6:15		.05		
		20		.01	.03
	6:35		.06		
		70		.08	.07
	7:45		.14		
		13		.02	.09
	7:58		.16		
		27		.03	.07
	8:25		.19		
		25		.03	.07
	8:50		.22		
		30		.08	.16
	9:20		.30		
		15		.04	.16
	9:35		.34		
		17		.08	.28
	9:52		.42		
		8		.01	.07
	10:00		.43		
		13		.07	.32
	10:13		.50		
		7		.01	.09
	10:20		.51		
		10		.02	.12
	10:30		.53		
		15		.04	.16
	10:45		.57		
		25		.04	.10
	11:10		.61		
		20		.03	.09
	11:30		.64		
		30		.01	.02
	12:00		.65		
		155		.01	.00
3/2/34	2:35A.		.66		
		25		.02	.05
	3:00		.68		
		5		.01	.12
	3:05		.69		
		12		.01	.05
	3:17		.70		
		5		.01	.12
	3:22		.71		
		68		.02	.02
	4:30		.73		
		15		.01	.04
	4:45		.74		
		23		.01	.03

Cumulative Rainfall
Gage No. 11
March 1-2, 1934

Date	Time	dt	D	dD	I
	5:08		.75		
		12		.01	.05
	5:20		.76		



	Terrace 15	Terrace 16
Area (acres)	.98	.82
Preceding Rain (in.)	.20	.20
date began	2:45P 3/1/34	2:45P 3/1/34
duration (hours)	12.9	12.9
Temperature (max. & min.)	50-38	50-38
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam
percent of area	100%	92%
Slope, average (percent)	23.4	26.8
maximum	35-45	35-40
Cover, type	W. wheat on fallow	W. wheat on fallow
height (ft.)	00-0.1' tall	00-0.1' tall
date last cultivated	Planted Oct. 1934	Planted Oct. 1934
Soil loss (tons per acre)	.226	.462
Remarks		

	Terrace 17	Terrace 18	G.S.4
Area (acres)	.92	1.18	2.33
Preceding Rain (in.)	.20	.20	.20
date began	2:45P 3/1/34	2:45P 3/1/34	2:45P 3/1/34
duration (hours)	12.9	12.9	12.9
Temperature (max. & min.)	50-38	50-38	50-38
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	98%	96%	88%
Slope, average (percent)	25.2	20.2	16%
maximum	30-35	25-30	20-25
Cover, type	W. wheat on fallow	W. wheat on fallow	W. wheat on fallow
height (ft.)	00-0.1' tall	00-0.1' tall	00-0.1' tall
date last cultivated	Planted Oct. 1934	Planted Oct. 1934	Planted Oct. 1934
Soil loss (tons per acre)	.271	.168	.408
Remarks			

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

STORM No. 4

Plot by L.M.N. date 11/25/40 checked by _____ date _____
Computations by L.M.N. date 11/22/40 checked by _____ date _____

Pullman, Washington
March 1-2, 1934
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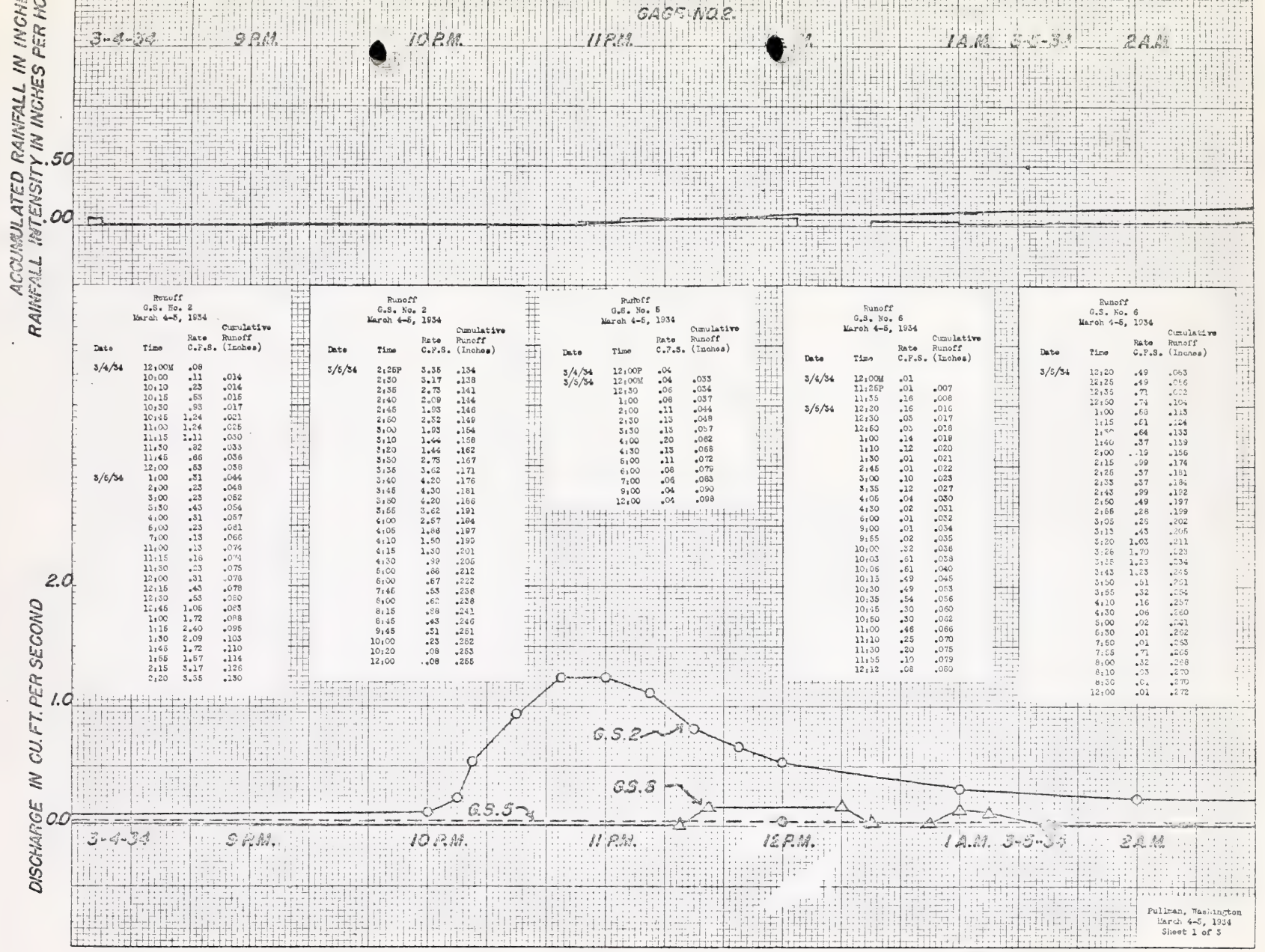


Runoff
G.S. No. 2
March 4-5, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/4/34	12:00M	.08	
	10:00	.11	.014
	10:10	.23	.014
	10:15	.53	.015
	10:30	.93	.017
	10:45	1.24	.021
	11:00	1.24	.025
	11:15	1.11	.030
	11:30	.82	.033
	11:45	.66	.036
	12:00	.53	.038
3/6/34	1:00	.31	.044
	2:00	.23	.048
	3:00	.23	.052
	3:30	.43	.054
	4:00	.31	.057
	5:00	.23	.061
	7:00	.13	.066
	11:00	.13	.074
	11:15	.16	.074
	11:30	.23	.075
	12:00	.31	.078
	12:15	.43	.078
	12:30	.53	.080
	12:45	1.05	.083
	1:00	1.72	.088
	1:15	2.40	.095
	1:30	2.09	.103
	1:45	1.72	.110
	1:55	1.57	.114
	2:15	3.17	.126
	2:20	3.35	.130

Runoff
G.S. No. 2
March 4-5, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/5/34	2:25P	3.35	.134
	2:30	3.17	.138
	2:35	2.73	.141
	2:40	2.09	.144
	2:45	1.93	.146
	2:50	2.32	.149
	3:00	1.93	.154
	3:10	1.44	.158
	3:20	1.44	.162
	3:30	2.73	.167
	3:35	3.62	.171
	3:40	4.20	.176
	3:45	4.30	.181
	3:50	4.20	.186
	3:55	3.62	.191
	4:00	2.57	.194
	4:05	1.88	.197
	4:10	1.50	.199
	4:15	1.30	.201
	4:30	.99	.205
	5:00	.86	.212
	6:00	.67	.222
	7:45	.53	.236
	8:00	.62	.238
	8:15	.88	.241
	8:45	.43	.246
	9:45	.31	.251
	10:00	.23	.252
	10:20	.08	.253
	12:00	.08	.255

Runoff
G.S. No. 5
March 4-5, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/4/34	12:00P	.04	
3/5/34	12:00M	.04	.033
	12:30	.06	.034
	1:00	.08	.037
	2:00	.11	.044
	2:30	.13	.048
	3:30	.13	.057
	4:00	.20	.062
	4:30	.13	.066
	5:00	.11	.072
	6:00	.08	.079
	7:00	.06	.083
	9:00	.04	.090
	12:00	.04	.098

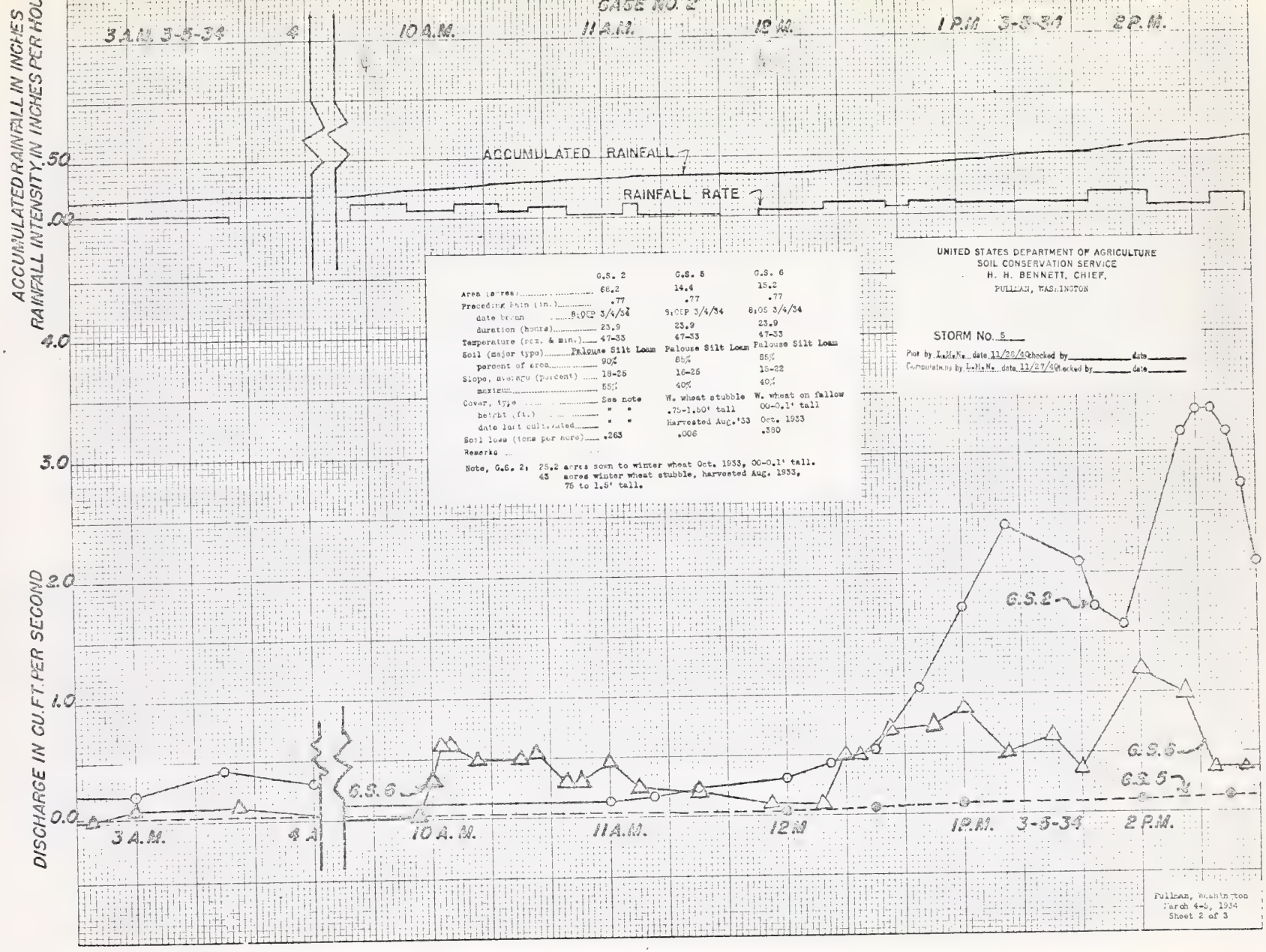
Runoff
G.S. No. 6
March 4-5, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/4/34	12:00M	.01	
	11:25P	.01	.007
	11:35	.16	.008
3/5/34	12:20	.16	.016
	12:30	.03	.017
	12:50	.03	.018
	1:00	.14	.018
	1:10	.12	.020
	1:30	.01	.021
	2:45	.01	.022
	3:00	.10	.023
	3:35	.12	.027
	4:05	.04	.030
	4:30	.02	.031
	6:00	.01	.032
	9:00	.01	.034
	9:55	.02	.035
	10:00	.02	.036
	10:03	.61	.038
	10:06	.61	.040
	10:15	.49	.045
	10:30	.49	.053
	10:35	.54	.056
	10:45	.30	.060
	10:50	.30	.062
	11:00	.46	.066
	11:10	.25	.070
	11:30	.20	.075
	11:55	.10	.079
	12:12	.08	.080

Runoff
G.S. No. 6
March 4-5, 1934

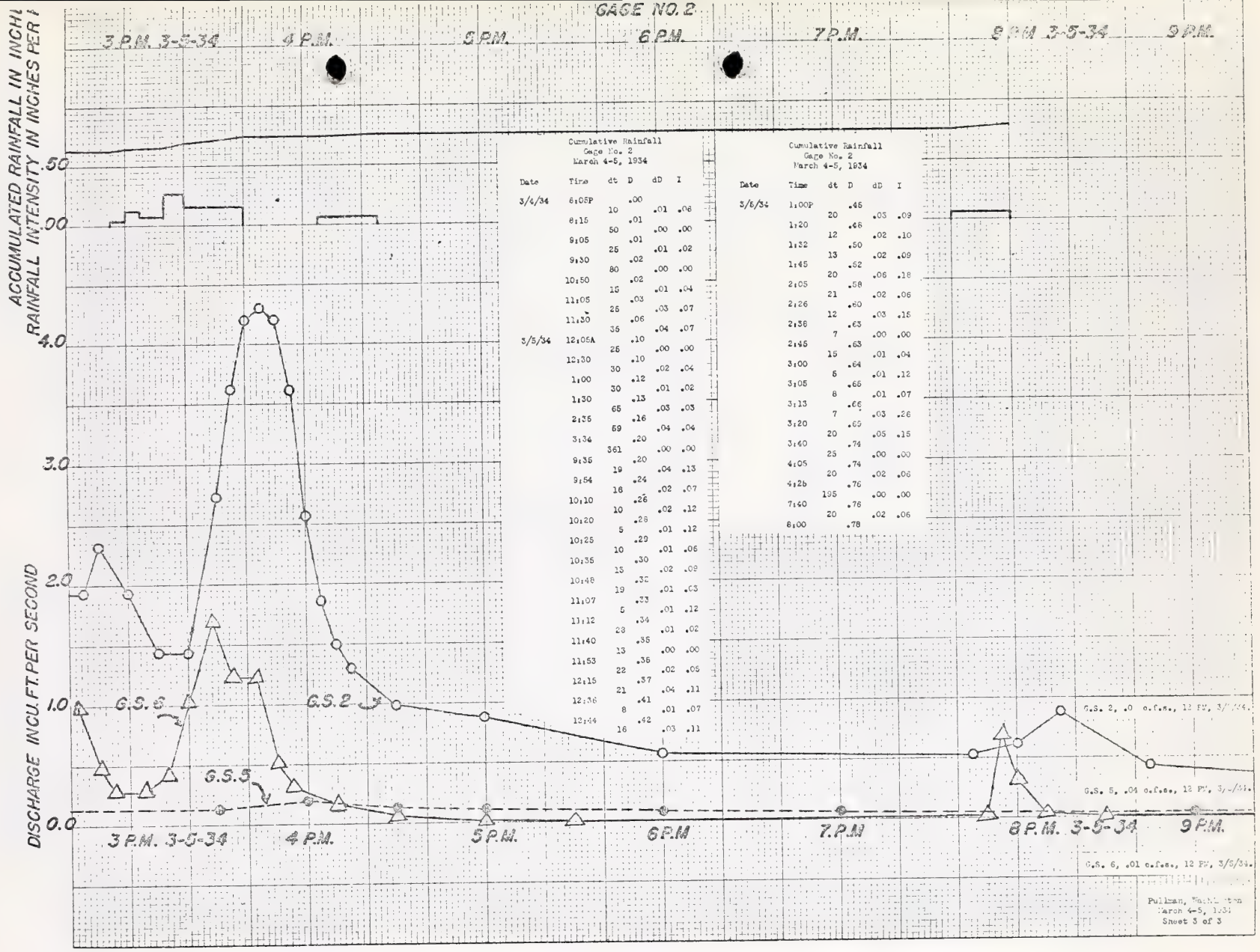
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/5/34	12:20	.49	.063
	12:25	.49	.066
	12:35	.71	.072
	12:50	.74	.104
	1:00	.68	.113
	1:15	.61	.124
	1:30	.64	.133
	1:40	.37	.139
	2:00	.19	.156
	2:15	.99	.174
	2:26	.37	.181
	2:33	.37	.184
	2:43	.99	.192
	2:50	.49	.197
	2:55	.26	.199
	3:05	.26	.202
	3:13	.43	.205
	3:20	1.03	.211
	3:26	1.70	.223
	3:35	1.23	.234
	3:43	1.23	.245
	3:50	.61	.251
	3:55	.32	.254
	4:10	.16	.257
	4:30	.06	.260
	5:00	.02	.261
	6:30	.01	.262
	7:50	.01	.263
	7:55	.71	.265
	8:00	.32	.268
	8:10	.03	.270
	8:30	.01	.270
	12:00	.01	.272

Pullman, Washington
March 4-5, 1934
Sheet 1 of 3



	G.S. 2	G.S. 5	G.S. 6
Area (acres)	68.2	14.4	15.2
Preceding Rain (in.)	.77	.77	.77
date begun	8:00P 3/4/34	9:00P 3/4/34	8:05 3/4/34
duration (hours)	23.9	23.9	23.9
Temperature (max. & min.)	47-33	47-33	47-33
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%	85%
Slope, average (percent)	18-25	16-25	15-22
maximum	55%	40%	40%
Cover, type	See note	W. wheat stubble	W. wheat on fallow
height (ft.)	" "	.75-1.50' tall	00-0.1' tall
date last cultivated	" "	Harvested Aug.'33	Oct. 1933
Soil loss (tons per acre)	.263	.006	.380
Remarks			

Note, G.S. 2: 25.2 acres sown to winter wheat Oct. 1933, 00-0.1' tall.
43 acres winter wheat stubble, harvested Aug. 1933, 75 to 1.5' tall.

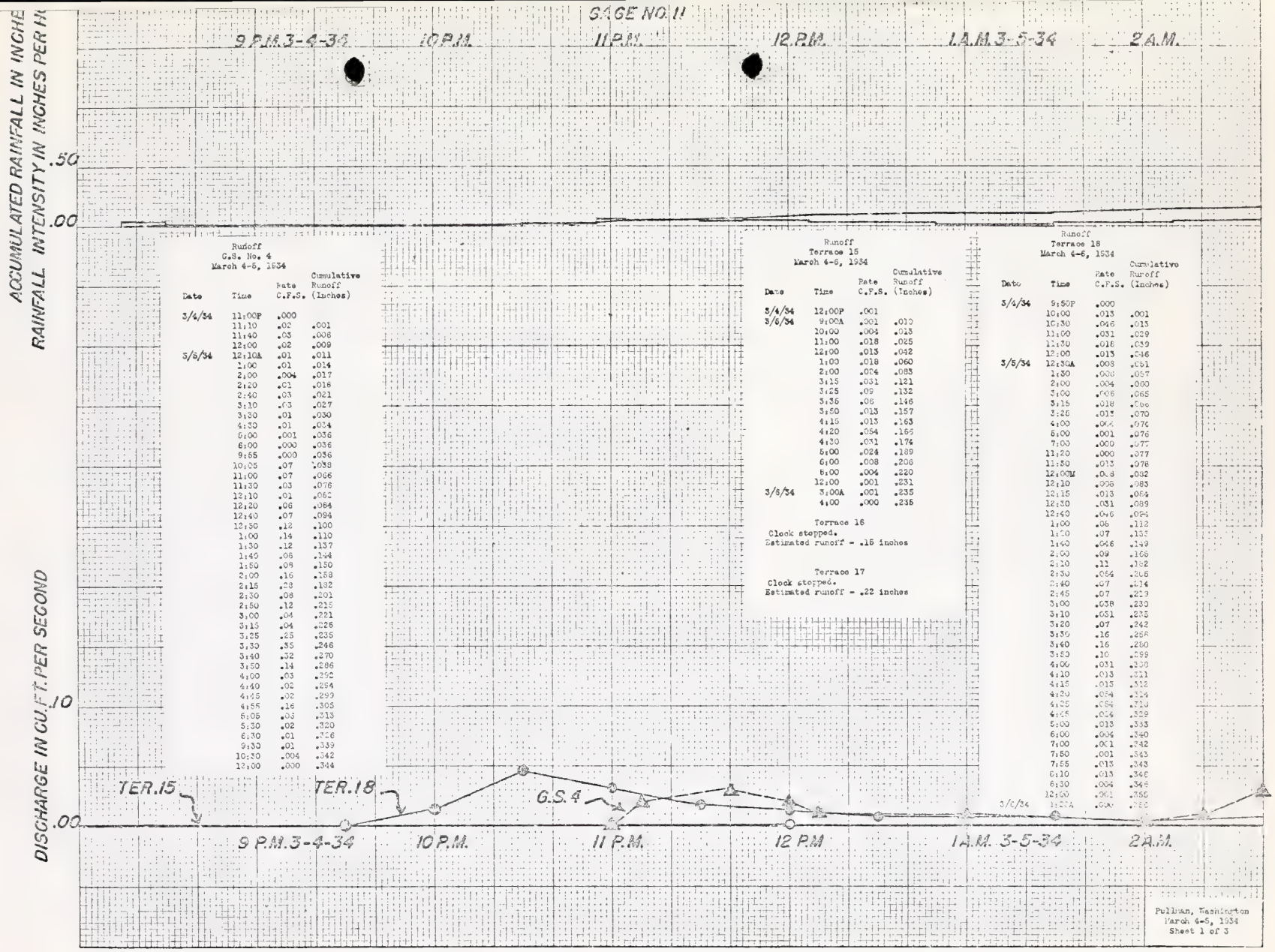


Cumulative Rainfall
Gage No. 2
March 4-5, 1934

Date	Time	dt	D	dD	I
3/4/34	6:05P		.00		
		10		.01	.06
	8:15		.01		
		50		.00	.00
	9:05		.01		
		25		.01	.02
	9:30		.02		
		80		.00	.00
	10:50		.02		
		15		.01	.04
	11:05		.03		
		25		.03	.07
	11:30		.06		
		35		.04	.07
3/5/34	12:05A		.10		
		25		.00	.00
	12:30		.10		
		30		.02	.04
	1:00		.12		
		30		.01	.02
	1:30		.13		
		65		.03	.03
	2:35		.16		
		59		.04	.04
	3:34		.20		
		361		.00	.00
	9:35		.20		
		19		.04	.13
	9:54		.24		
		16		.02	.07
	10:10		.26		
		10		.02	.12
	10:20		.28		
		5		.01	.12
	10:25		.29		
		10		.01	.06
	10:35		.30		
		13		.02	.09
	10:48		.32		
		19		.01	.03
	11:07		.33		
		5		.01	.12
	11:12		.34		
		28		.01	.02
	11:40		.35		
		13		.00	.00
	11:53		.35		
		22		.02	.05
	12:15		.37		
		21		.04	.11
	12:36		.41		
		8		.01	.07
	12:44		.42		
		16		.03	.11

Cumulative Rainfall
Gage No. 2
March 4-5, 1934

Date	Time	dt	D	dD	I
3/6/34	1:00P		.45		
		20		.03	.09
	1:20		.48		
		12		.02	.10
	1:32		.50		
		13		.02	.09
	1:45		.52		
		20		.06	.18
	2:05		.58		
		21		.02	.06
	2:26		.60		
		12		.03	.15
	2:38		.63		
		7		.00	.00
	2:45		.63		
		15		.01	.04
	3:00		.64		
		5		.01	.12
	3:05		.65		
		8		.01	.07
	3:13		.66		
		7		.03	.26
	3:20		.69		
		20		.05	.15
	3:40		.74		
		25		.00	.00
	4:05		.74		
		20		.02	.06
	4:26		.76		
		195		.00	.00
	7:40		.76		
		20		.02	.06
	8:00		.78		



Runoff
G.S. No. 4
March 4-5, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/4/34	11:00P	.000	
	11:10	.02	.001
	11:40	.03	.006
	12:00	.02	.009
3/5/34	12:10A	.01	.011
	1:00	.01	.014
	2:00	.004	.017
	2:20	.01	.018
	2:40	.03	.021
	3:10	.03	.027
	3:30	.01	.030
	4:30	.01	.034
	5:00	.001	.036
	6:00	.000	.036
	9:55	.000	.036
	10:05	.07	.038
	11:00	.07	.066
	11:30	.03	.076
	12:10	.01	.082
	12:20	.06	.084
	12:40	.07	.094
	12:50	.12	.100
	1:00	.14	.110
	1:30	.12	.137
	1:40	.08	.144
	1:50	.08	.150
	2:00	.16	.158
	2:15	.28	.182
	2:30	.08	.201
	2:50	.12	.215
	3:00	.04	.221
	3:15	.04	.226
	3:25	.25	.235
	3:30	.35	.246
	3:40	.32	.270
	3:50	.14	.286
	4:00	.03	.292
	4:40	.02	.294
	4:45	.02	.299
	4:55	.16	.305
	5:05	.03	.313
	5:30	.02	.320
	6:30	.01	.326
	9:30	.01	.339
	10:30	.004	.342
	12:00	.000	.344

Runoff
Terrace 15
March 4-5, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/4/34	12:00P	.001	
3/5/34	9:00A	.001	.010
	10:00	.004	.013
	11:00	.018	.025
	12:00	.013	.042
	1:00	.018	.060
	2:00	.024	.083
	3:15	.031	.121
	3:25	.09	.132
	3:35	.06	.146
	3:50	.013	.157
	4:15	.013	.163
	4:20	.054	.166
	4:30	.031	.174
	5:00	.024	.189
	6:00	.008	.206
	8:00	.004	.220
	12:00	.001	.231
3/6/34	8:00A	.001	.235
	4:00	.000	.235

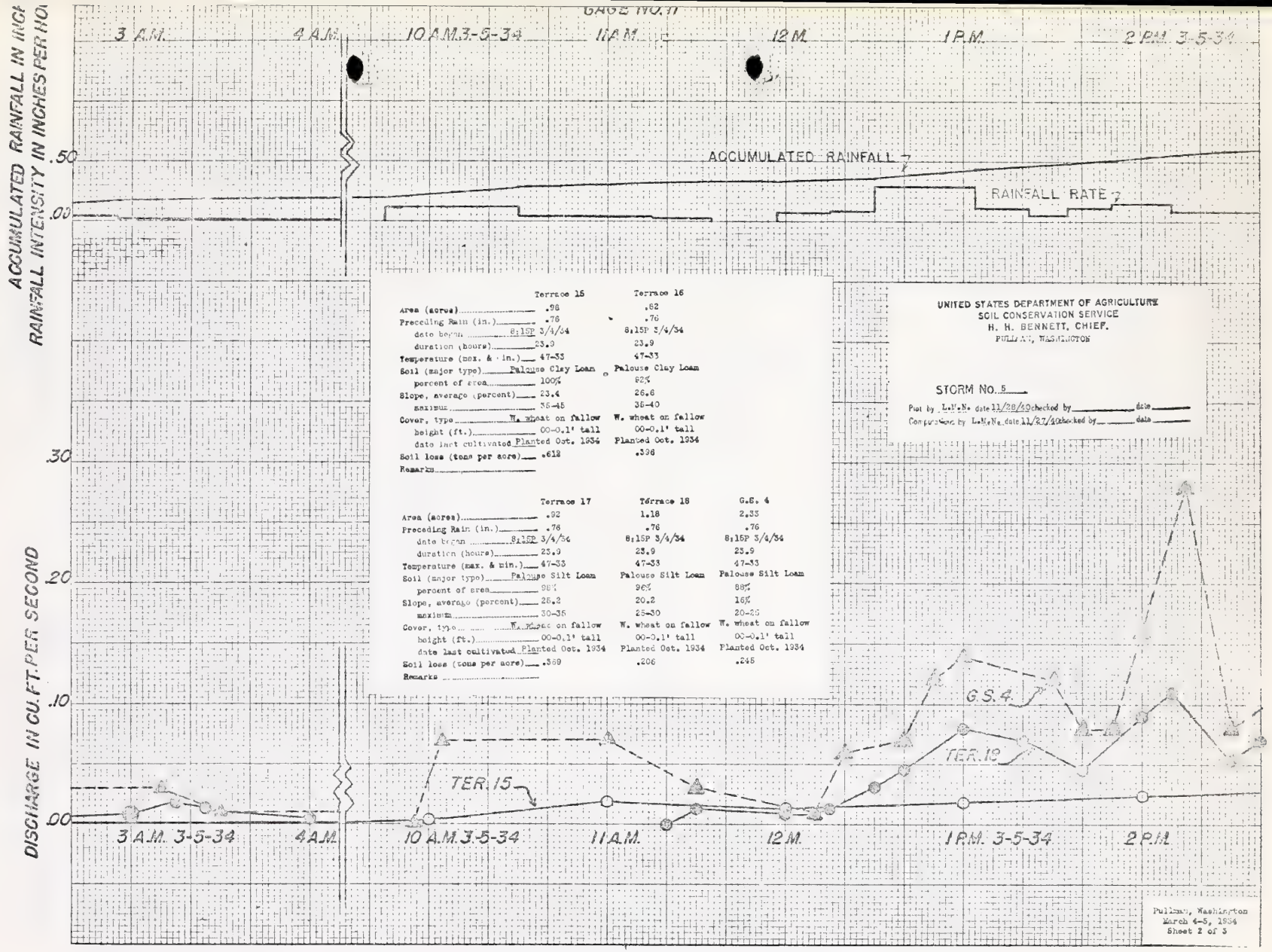
Terrace 16
Clock stopped.
Estimated runoff - .16 inches

Terrace 17
Clock stopped.
Estimated runoff - .22 inches

Runoff
Terrace 18
March 4-5, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/4/34	9:50P	.000	
	10:00	.013	.001
	10:30	.046	.013
	11:00	.031	.029
	11:30	.016	.039
	12:00	.013	.046
3/5/34	12:30A	.008	.051
	1:30	.008	.057
	2:00	.004	.060
	3:00	.008	.065
	3:15	.018	.066
	3:25	.013	.070
	4:00	.004	.076
	5:00	.001	.076
	7:00	.000	.077
	11:20	.000	.077
	11:30	.013	.078
	12:00M	.018	.082
	12:10	.006	.083
	12:15	.013	.084
	12:30	.031	.089
	12:40	.046	.094
	1:00	.06	.112
	1:30	.07	.135
	1:40	.046	.149
	2:00	.09	.168
	2:10	.11	.182
	2:30	.064	.206
	2:40	.07	.214
	2:45	.07	.219
	3:00	.038	.230
	3:10	.031	.235
	3:20	.07	.242
	3:30	.16	.258
	3:40	.16	.280
	3:50	.10	.299
	4:00	.031	.308
	4:10	.013	.311
	4:15	.013	.312
	4:20	.024	.314
	4:25	.024	.316
	4:35	.024	.318
	5:00	.013	.333
	6:00	.004	.340
	7:00	.001	.342
	7:50	.001	.343
	7:55	.013	.343
	8:10	.013	.346
	8:30	.004	.348
	12:00	.001	.355
3/6/34	1:00A	.000	.355

Pullman, Washington
March 4-5, 1934
Sheet 1 of 3



	Terrace 15	Terrace 16
Area (acres)	.98	.82
Preceding Rain (in.)	.76	.76
date began	8:15P 3/4/34	8:15P 3/4/34
duration (hours)	23.9	23.9
Temperature (max. & min.)	47-33	47-33
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam
percent of area	100%	82%
Slope, average (percent)	23.4	26.6
maximum	35-45	35-40
Cover, type	W. wheat on fallow	W. wheat on fallow
height (ft.)	00-0.1' tall	00-0.1' tall
date last cultivated	Planted Oct. 1934	Planted Oct. 1934
Soil loss (tons per acre)	.618	.396
Remarks		

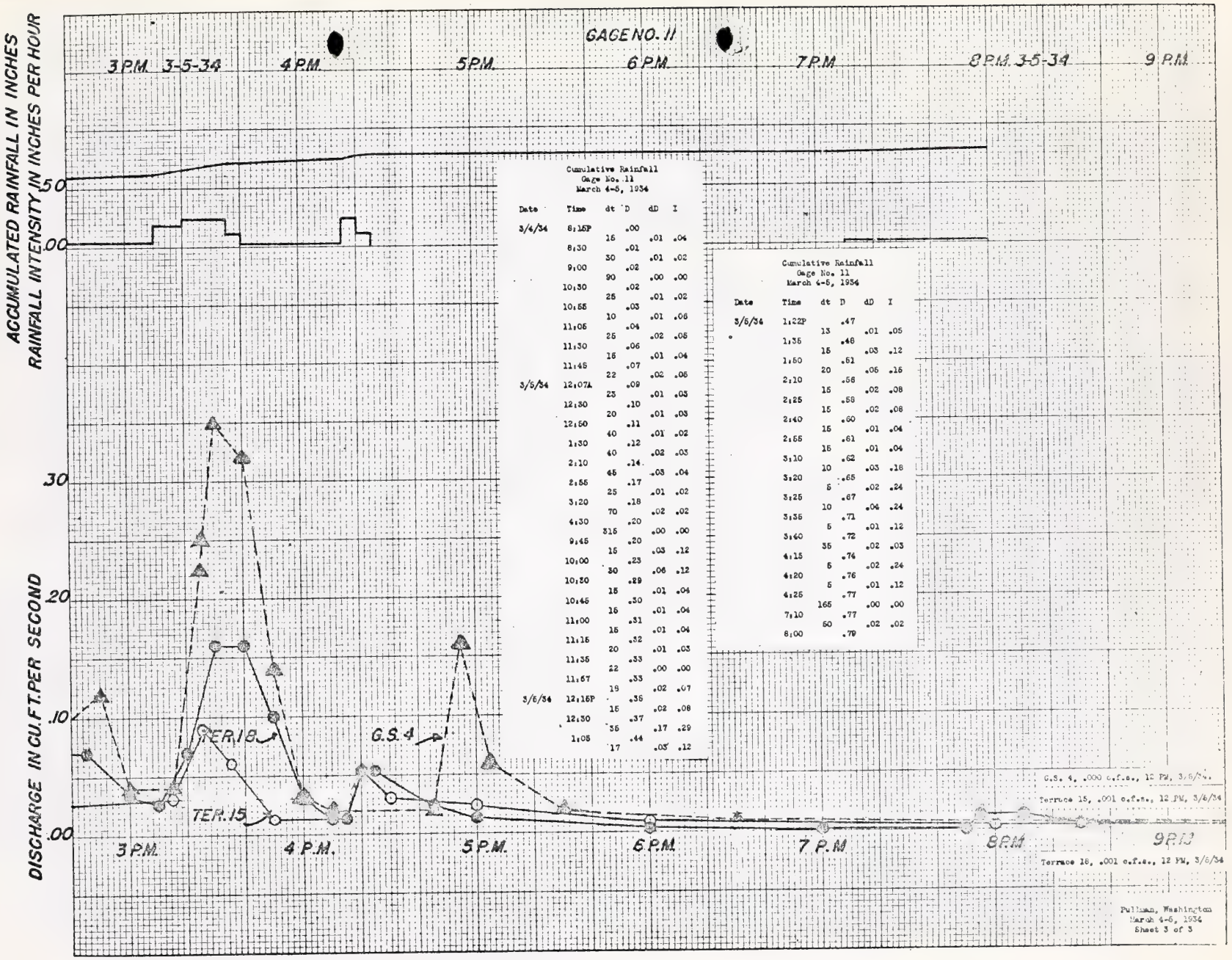
	Terrace 17	Terrace 18	G.S. 4
Area (acres)	.92	1.18	2.33
Preceding Rain (in.)	.76	.76	.76
date began	8:15P 3/4/34	8:15P 3/4/34	8:15P 3/4/34
duration (hours)	23.9	23.9	23.9
Temperature (max. & min.)	47-33	47-33	47-33
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	98%	96%	88%
Slope, average (percent)	25.2	20.2	16%
maximum	30-35	25-30	20-25
Cover, type	W. wheat on fallow	W. wheat on fallow	W. wheat on fallow
height (ft.)	00-0.1' tall	00-0.1' tall	00-0.1' tall
date last cultivated	Planted Oct. 1934	Planted Oct. 1934	Planted Oct. 1934
Soil loss (tons per acre)	.369	.206	.245
Remarks			

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

STORM No. 5

Plot by L.M.N. date 11/28/40 checked by _____ date _____
Computation by L.M.N. date 11/27/40 checked by _____ date _____

Pullman, Washington
March 4-5, 1934
Sheet 2 of 3

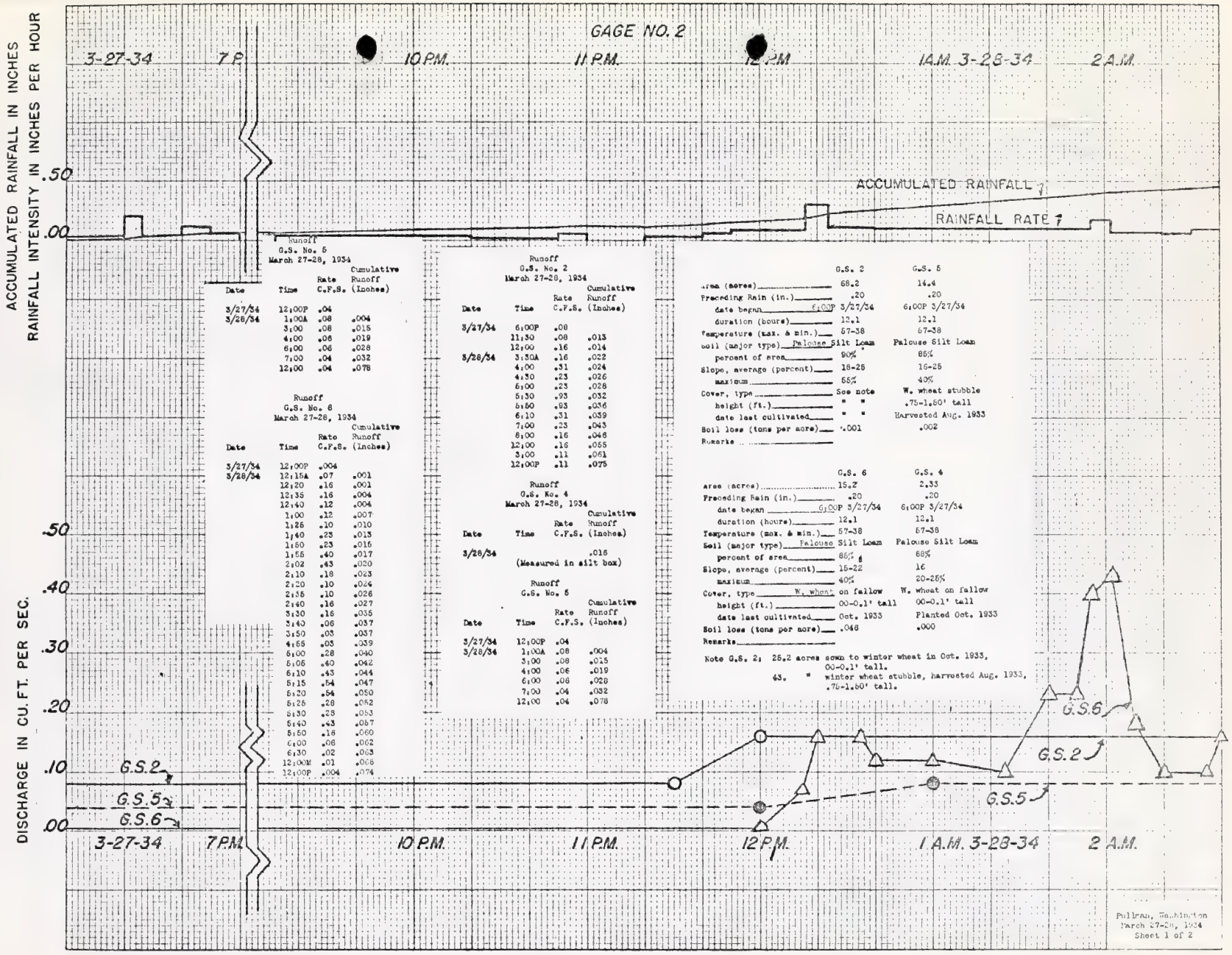


Cumulative Rainfall
Gage No. 11
March 4-6, 1934

Date	Time	dt	D	dD	I
3/4/34	8:15P		.00		
		15		.01	.04
	8:30		.01		
		30		.01	.02
	9:00		.02		
		90		.00	.00
	10:30		.02		
		25		.01	.02
	10:55		.03		
		10		.01	.06
	11:05		.04		
		25		.02	.05
	11:30		.06		
		15		.01	.04
	11:45		.07		
		22		.02	.05
3/5/34	12:07A		.09		
		23		.01	.03
	12:30		.10		
		20		.01	.03
	12:50		.11		
		40		.01	.02
	1:30		.12		
		40		.02	.03
	2:10		.14		
		45		.03	.04
	2:55		.17		
		25		.01	.02
	3:20		.18		
		70		.02	.02
	4:30		.20		
		315		.00	.00
	9:45		.20		
		15		.03	.12
	10:00		.23		
		30		.06	.12
	10:30		.29		
		15		.01	.04
	10:45		.30		
		15		.01	.04
	11:00		.31		
		15		.01	.04
	11:15		.32		
		20		.01	.03
	11:35		.33		
		22		.00	.00
	11:57		.33		
		19		.02	.07
3/6/34	12:16P		.35		
		16		.02	.08
	12:30		.37		
		35		.17	.29
	1:05		.44		
		17		.03	.12

Cumulative Rainfall
Gage No. 11
March 4-6, 1934

Date	Time	dt	D	dD	I
3/6/34	1:22P		.47		
		13		.01	.05
	1:35		.46		
		15		.03	.12
	1:50		.51		
		20		.05	.15
	2:10		.56		
		15		.02	.08
	2:25		.58		
		15		.02	.08
	2:40		.60		
		15		.01	.04
	2:55		.61		
		15		.01	.04
	3:10		.62		
		10		.03	.18
	3:20		.65		
		5		.02	.24
	3:25		.67		
		10		.04	.24
	3:35		.71		
		5		.01	.12
	3:40		.72		
		35		.02	.03
	4:15		.74		
		5		.02	.24
	4:20		.76		
		5		.01	.12
	4:25		.77		
		165		.00	.00
	7:10		.77		
		50		.02	.02
	8:00		.79		



Runoff
G.S. No. 5
March 27-28, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/34	12:00P	.04	
3/28/34	1:00A	.08	.004
	3:00	.08	.015
	4:00	.06	.019
	6:00	.06	.028
	7:00	.04	.032
	12:00	.04	.078

Runoff
G.S. No. 6
March 27-28, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/34	12:00P	.004	
3/28/34	12:15A	.07	.001
	12:20	.16	.001
	12:35	.16	.004
	12:40	.12	.004
	1:00	.12	.007
	1:25	.10	.010
	1:40	.23	.013
	1:50	.23	.015
	1:55	.40	.017
	2:02	.43	.020
	2:10	.18	.023
	2:20	.10	.024
	2:35	.10	.026
	2:40	.16	.027
	3:30	.16	.035
	3:40	.06	.037
	3:50	.03	.037
	4:55	.03	.039
	5:00	.28	.040
	5:05	.40	.042
	5:10	.43	.044
	5:15	.54	.047
	5:20	.54	.050
	5:25	.28	.052
	5:30	.28	.053
	5:40	.43	.057
	5:50	.18	.060
	6:00	.06	.062
	6:30	.02	.063
	12:00M	.01	.068
	12:00P	.004	.074

Runoff
G.S. No. 2
March 27-28, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/34	6:00P	.08	
	11:30	.08	.013
	12:00	.16	.014
3/28/34	3:30A	.16	.022
	4:00	.31	.024
	4:30	.23	.026
	5:00	.23	.028
	5:30	.93	.032
	5:50	.93	.036
	6:10	.31	.039
	7:00	.23	.043
	8:00	.16	.046
	12:00	.16	.055
	3:00	.11	.061
	12:00P	.11	.075

Runoff
G.S. No. 4
March 27-28, 1934

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/28/34			.016

(Measured in silt box)

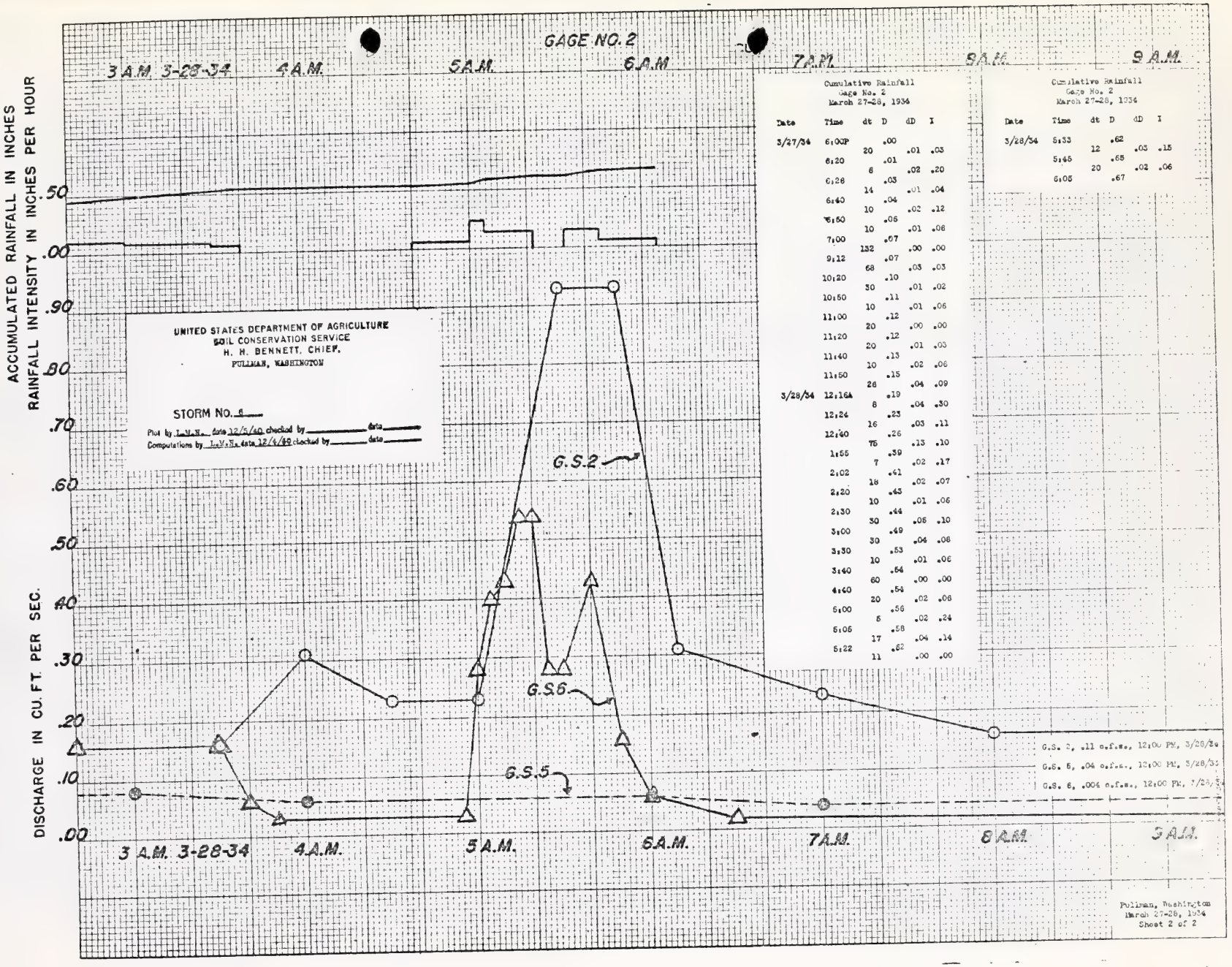
Runoff
G.S. No. 5

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/34	12:00P	.04	
3/28/34	1:00A	.08	.004
	3:00	.08	.015
	4:00	.06	.019
	6:00	.06	.028
	7:00	.04	.032
	12:00	.04	.078

	G.S. 2	G.S. 5
Area (acres)	68.2	14.4
Preceding Rain (in.)	.20	.20
date begun 6:00P	3/27/34	6:00P 3/27/34
duration (hours)	12.1	12.1
Temperature (max. & min.)	57-38	57-38
Soil (major type) Palouse	Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25	16-25
maximum	55%	40%
Cover, type	See note	W. wheat stubble
height (ft.)	" "	.75-1.50' tall
date last cultivated	" "	Harvested Aug. 1933
Soil loss (tons per acre)	.001	.002
Remarks		

	G.S. 6	G.S. 4
Area (acres)	15.2	2.33
Preceding Rain (in.)	.20	.20
date began 6:00P	3/27/34	6:00P 3/27/34
duration (hours)	12.1	12.1
Temperature (max. & min.)	57-38	57-38
Soil (major type) Palouse	Silt Loam	Palouse Silt Loam
percent of area	85%	85%
Slope, average (percent)	15-22	16
maximum	40%	20-25%
Cover, type W. wheat	on fallow	W. wheat on fallow
height (ft.)	00-0.1' tall	00-0.1' tall
date last cultivated	Oct. 1933	Planted Oct. 1933
Soil loss (tons per acre)	.048	.000
Remarks		

Note G.S. 2: 25.2 acres sown to winter wheat in Oct. 1933, 00-0.1' tall.
43. " winter wheat stubble, harvested Aug. 1933, .75-1.50' tall.



Cumulative Rainfall
Gage No. 2
March 27-28, 1934

Date	Time	dt	D	dD	I
3/27/34	6:00P		.00		
		20		.01	.03
	6:20		.01		
		8		.02	.20
	6:28		.03		
		14		.01	.04
	6:40		.04		
		10		.02	.12
	6:50		.06		
		10		.01	.06
	7:00		.07		
		132		.00	.00
	9:12		.07		
		68		.03	.03
	10:20		.10		
		30		.01	.02
	10:50		.11		
		10		.01	.06
	11:00		.12		
		20		.00	.00
	11:20		.12		
		20		.01	.03
	11:40		.13		
		10		.02	.06
	11:50		.15		
		26		.04	.09
3/28/34	12:16A		.19		
		8		.04	.30
	12:24		.23		
		16		.03	.11
	12:40		.26		
		75		.13	.10
	1:55		.39		
		7		.02	.17
	2:02		.41		
		18		.02	.07
	2:20		.43		
		10		.01	.06
	2:30		.44		
		30		.05	.10
	3:00		.49		
		30		.04	.08
	3:30		.53		
		10		.01	.06
	3:40		.54		
		60		.00	.00
	4:40		.54		
		20		.02	.06
	5:00		.56		
		5		.02	.24
	5:05		.58		
		17		.04	.14
	5:22		.62		
		11		.00	.00

Cumulative Rainfall
Gage No. 2
March 27-28, 1934

Date	Time	dt	D	dD	I
3/28/34	5:33		.62		
		12		.03	.15
	5:45		.65		
		20		.02	.06
	6:05		.67		

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month Jan., 1935

Sheet 1 of 5 sheets

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January									
1/1-3	G.S.2									38	27	72 hours		0.06	0.06	12Noon(3)			Approximately 12 inches snow
	G.S.5									38	27	72	"	0.06	0.02	12 " (3)			carried over from Dec. 1934.
	G.S.6									38	27								
					Terraces 15, 16, 17, 18 and G.S. 4								No runoff						
1/4			2	1:40PM	620	0.23	0.24	0.16	0.12	43	30								
1/3-4	G.S.2	68.2								43	30	12 PM	12 PM	0.05	0.48	5:40PM			Rain and melting snow.
	G.S.5	14.4								43	30	12 PM	12 PM	0.09	0.11	3 PM			" " " "
	G.S.6	15.2								43	30	12 PM	12 PM	0.02	0.02	12 Noon			" " " "
1/4-5	G.S.2									43	30	12 PM	12 PM	0.06	0.39	3 AM			Melting snow and ground water.
	G.S.5									43	30	12 PM	12 PM	0.05	0.08	12 PM(4)			" " " " "
	G.S.6									43	30	12 PM	12 PM	0.02	0.02	8 AM			" " " " "
1/6			2	4 AM	470	0.10	0.06	0.06	0.06	38	32								
1/6			2			0.14	Rain and snow			38	32								
1/7			2			0.30	Snow			34	31								
1/8			2			0.15	"			33	31								
1/11			2			0.42	"			35	22								
1/12			2			0.41	"			25	24								
1/5-15	G.S.2	68.2								39	12	240 hours		0.39	0.53	7:20PM(7)			Rain and melting snow.
	G.S.5	14.4								39	12	240	"	0.68	0.13	7 PM (7)			" " " "
	G.S.6	15.2								39	12	240	"	0.14	0.04	9 AM (6)			" " " "
1/6	Ter.15	.98								38	32	—		0.01		—			Measured in silt box.
1/8	Ter.16	.82								33	31	—		0.03		—			" " " "
1/5-15	Ter.17	.92								39	12	No runoff							
1/6	Ter.18	1.18								38	32	—		0.02		—			" " " "
1/1-15	G.S.4	2.33								43	12	No runoff							
1/16			2			0.46	Snow			28	11								2-3 inches of frost in ground.
1/17			2			0.15	"			26	20								
1/19			2			0.10	"			-4	-5								Cover of snow prevented further
1/21-22			2	11 PM	915	0.22	0.12	0.08	0.06	45	-15								freezing of soil.
1/23			2	3 AM	200	0.14	0.06	0.04	0.04	41	32								
1/24			2	6 PM	900	0.09	0.02	0.02	0.02	46	33								
1/15-31	G.S.2									50	-15	384 hours		0.80	1.05	1:30PM(24)			Melting snow and rains.
	G.S.5									50	-15	384	"	1.17	0.13	8 AM(24)			" " " "
	G.S.6									50	-15	384	"	0.44	0.12	4 PM(24)			" " " "
1/24	Ter.15									46	33	—		0.02		—			Measured in silt box.
	Ter.16									46	33	—		0.03		—			" " " "
	Ter.17									46	33	No runoff							
	Ter.18									46	33	"	"						
	G.S.4									46	33	"	"						

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT Pullman, Washington

MONTH Feb.-Mar., 1935

SHEET 2 OF 5 SHEETS

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	Maximum Intensity: 15 minutes (inches per hour)	Maximum Intensity: 30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										February									
2/11			2			0.21		Snow		38	29								
2/13			2			0.41		"		39	28								February 1-15, very little frost in ground.
2/1-15	G.S.2	68.2								50	17	360	hours	0.23	0.13	1:00PM(8)			
2/1-16	G.S.5	14.4								50	17	384	"	0.26	0.02	12Noon(6)			February 15-28, frost all out except under drifts.
2/1-15	G.S.6	15.2								50	17	360	"	0.07	0.01	8 AM(13)			
						Terraces 15, 16, 17, 18 and G.S. 4							No runoff						
2/17			2	No record		0.02		No record		35	25								
2/20			2	1:30PM	150	0.06	0.04	0.04	0.04	46	35								
2/21			2	3 AM	95	0.04	0.02	0.02	0.02	44	34								
2/21-22			2	2:10PM	1200	0.21	0.08	0.08	0.08	44	34								
2/28			2	10 AM	360	0.13	0.08	0.08	0.06	44	34								
2/16-28	G.S.2																		
2/17-28	G.S.5									49	24	312	hours	0.26	0.66	10:20AM(22)			
2/16-28	G.S.6									49	24	288	"	0.21	0.16	10 AM (22)			
						Terraces 15, 16, 17, 18 and G.S. 4				49	24	312	"	0.13	0.02	12Noon(19)			
													No runoff						
										March									
3/5			2			0.07		Snow		36	26								
3/6			2			0.01		"		41	24								March 1 - April 5, freeze at night, thaw during day.
3/7			2			0.18		Snow and rain		40	31								
3/11			2			0.13		Snow		45	30								
3/11			2	10:10AM	60	0.02	0.02	0.02	0.02	45	30								
3/11			2	6 PM	60	0.04	0.06	0.04	0.02	45	30								
3/12			2	6 AM	120	0.06	0.12	0.08	0.06	50	32								
3/12			2	2:50PM	380	0.19	0.12	0.08	0.06	50	32								
3/1-15	G.S.2									63	21	360	hours	0.21	0.31	4 PM(12)			
	G.S.5									63	21	360	"	0.26	0.04	2 PM(5)			Melting snow and rains.
	G.S.6									63	21	360	"	0.26	0.03	8 AM(12)			" " " "
						Terraces 15, 16, 17, 18 and G.S. 4							No runoff						" " " "
3/17			2			0.10		Snow		44	31								
3/20			2			0.07		"		38	24								
3/24			2	3:10PM	360	0.36	0.18	0.18	0.18	46	29								
3/25			2			0.02		Snow		38	30								
3/26			2			0.12		"		34	24								
3/31			2			0.03		"		38	22								

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT Pullman, Washington

MONTH Mar., Apr., May, 1935

SHEET 3 OF 5 SHEETS

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (Degrees F.) Maximum	Temperature (Degrees F.) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										March (Continued)									
3/16-31	G.S.2	68.2								50	12	384	hours	0.31	1.11	4:30PM(28)			Melting snow, rain and
	G.S.5	14.4								50	12	384	"	0.45	0.23	4:30PM(28)			ground water.
	G.S.6	15.2								50	12	384	"	0.32	0.12	5 PM(28)			
	G.S.8	762								50	12	384	"	0.34	16.00	5:50PM(28)			
						Terraces	15, 16, 17, 18 and G.S. 4						No runoff						
										April									
4/4			2			0.18		Snow		37	29								
4/5			2	7:30AM	470	0.13	0.18	0.16	0.12	43	29								
4/7-8			2	7:50AM	1440	0.56	0.18	0.16	0.12	44	33								
4/8			2	12:20PM	190	0.02	0.06	0.04	0.02	44	33								
4/12			2	3:20PM	330	0.17	0.34	0.20	0.14	65	44								
3/31-4/15	G.S.2									65	22	12 PM	10 AM	0.41	0.82	8 PM (12)			Rain, melting snow and last
	G.S.5									65	22	12 PM	9:10AM	0.64	0.39	2:05PM(5)			of drifts on upper north
	G.S.6									65	22	12 PM	10 AM	0.54	0.12	8 PM(7)			slopes. Snow all gone 4/14/35.
	G.S.8									65	22	12 PM	8 AM	0.35	17.25	8:30PM(7)			
						Terraces	15, 16, 17, 18 and G.S. 4						No runoff						
*4/15			2	8:50AM	555	0.46	0.17	0.12	0.09	46	40								
4/15-16	G.S.2									48	36	10 AM	12Noon	0.063	0.71	1:30PM	0.40	0.013	Runoff from rain. No snow on
	G.S.5									48	36	9:10AM	12:30A	0.025	0.06	10:30AM	0.43	0.648	ground. Cover for G.S. 2,
4/15	G.S.6									46	40	10 AM	9 PM	0.037	0.08	2 PM	0.42	0.023	33.2 acres winter wheat stubble
4/15-16	G.S.8									48	36	8 AM	3 PM	0.073	5.88	3 PM(15)	0.39	0.012	16.7 acres fall plowing, 70
						Terraces	15, 16, 17, 18 and G.S. 4						No runoff						acres first year sweet clover,
																			11.3 acres misc. alfalfa, grass
4/18			2	4:30AM	110	0.02	0.02	0.02	0.02	55	44								trees and exp. plots, roads.
4/20			2	7:55PM	265	0.32	0.36	0.24	0.16	57	44								G.S. 6, winter wheat stubble,
4/21			2	9:50PM	25	0.01	0.02	0.02	0.02	45	38								G.S. 8, agricultural water-
4/22-23			2	8:40PM	280	0.24	0.24	0.16	0.12	49	32								shed offering approximately
4/23			2	1 PM	170	0.01	--	--	--	46	32								the same conditions year after
																			year. G.S. 5, winter wheat.
4/16-28	G.S.2									65	29	12Noon	12 PM	-0.21	1.11	11:50PM(22)			
4/16-5/3	G.S.5									65	29	12:30AM	12 PM	0.41	0.59	11:40PM(22)			4/18 - 5/11 runoff caused by
4/16-30	G.S.6									65	29	9 PM	12 PM	0.30	0.07	10:10PM(20)			rain and ground water.
4/16-30	G.S.8									65	29	3 PM	12 PM	0.14	5.36	10:30PM(20)			4/28 end of runoff for G.S. 2
																			5/3 end of runoff for G.S. 5
										May									5/10 " " " " " 8
																			5/11 " " " " " 6
5/1-15	G.S. 2									69	27		No runoff						
5/4-15	G.S. 5									69	27		" "						Terraces 15, 16, 17, 18 and
5/1-11	G.S. 6									69	27	264 hours		0.07	--	--			G.S. 4, winter wheat stubble
5/1-10	G.S. 8									69	27	240 "		0.005	--	--			disc after harvest 1934 and
																			left rough.

* Storms for which graphs were prepared.

Form S. C. S.-343

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month May to Nov., 1935

Sheet 4 of 5 sheets

Date	Watershed: Number	Watershed: Area (acres)	Rainfall: Gage No.	Rainfall: Began (hour)	Rainfall: Duration (minutes)	Rainfall: Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	Maximum Intensity: 15 minutes (inches per hour)	Maximum Intensity: 30 minutes (inches per hour	Temperature (degrees F.): Maximum	Temperature (degrees F.): Minimum	Run-off: Began (hour)	Run-off: Ended (hour)	Run-off: Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										May (Continued)									
5/15			2	4 AM	235	0.06	0.02	0.02	0.02	62	44								5/1 - 6/30
5/16			2	1:50PM	75	0.19	0.36	0.28	0.24	59	38								Soil wet to dry. Winter wheat making good growth.
										June									
6/12			2	2:20AM	135	0.07	0.06	0.04	0.04	70	49			No runoff					Plow winter wheat stubble for fallow. Plow under sweet clover for green manure crop.
6/12			2	2 PM	420	0.12	0.96	0.36	0.18	70	49			ditto					
6/14			2	6:50AM	325	0.25	0.24	0.20	0.14	55	48			"					
6/15			2	12:45AM	340	0.10	0.08	0.08	0.04	63	42			"					
6/28			2	6:55AM	145	0.08	0.12	0.08	0.04	77	53								
										July									
7/6			2	7:45PM	115	0.10	0.24	0.12	0.08	67	49			"					Terraces and G.S. 4 weeded during summer with round rod weeder.
7/7-8			2	10:30PM	510	0.15	0.36	0.24	0.14	66	45			"					
										August									
8/18			2	5:10AM	75	0.11	0.48	0.32	0.16	67	51			"					7/1-8/31 all crops harvested by combine harvester with straw spreading attachment
8/18			2	3:15PM	73	0.25	0.36	0.36	0.28	67	51			"					
8/31			2	4:55AM	20	0.24	0.84	0.72	0.48	82	54			"					
										September									
9/14			2	7:20AM	130	0.12	0.12	0.08	0.06	76	42			"					9/1-9/30 fall tillage and seeding of winter wheat.
9/15			2	1:25AM	30	0.04	0.12	0.08	0.08	68	50			"					
9/16			2	12:35AM	155	0.10	0.24	0.08	0.08	66	51			"					
										October									
10/5			2	12:20AM	175	0.17	0.24	0.16	0.12	53	43			"					10/1-10/31, soil moist to wet. Soil in good condition to absorb moisture.
10/11			2	1 PM	360	0.12	0.06	0.04	0.04	63	44			"					
10/12			2	1:50AM	145	0.06	0.12	0.08	0.08	58	47			"					
10/12			2	8:35PM	45	0.06	0.18	0.16	0.12	58	47			"					
10/14			2	11:20AM	20	0.01	0.02	0.02	0.02	56	43			"					
10/19			2	8 AM	160	0.08	0.04	0.04	0.04	47	33			"					
10/21			2	9:50AM	470	0.16	0.20	0.12	0.12	33	24			"					Precipitation was 6.10 inches below normal for year of 1935. Low intensities when soil was saturated resulted in very slight runoff and soil loss.
10/22			2	5:35AM	155	0.04	0.12	0.08	0.04	42	24			"					
10/29			2			0.04		Snow		28	25			"					
										November									
11/9			2	8:25PM	75	0.08	0.02	0.02	0.02	35	29			"					
11/11-12			2	7:10PM	925	0.24	0.12	0.08	0.06	45	23			"					
11/15			2	8:55AM	505	0.16	0.12	0.08	0.06	39	30			"					
11/22-23			2			0.35		Snow		35	22			"					

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

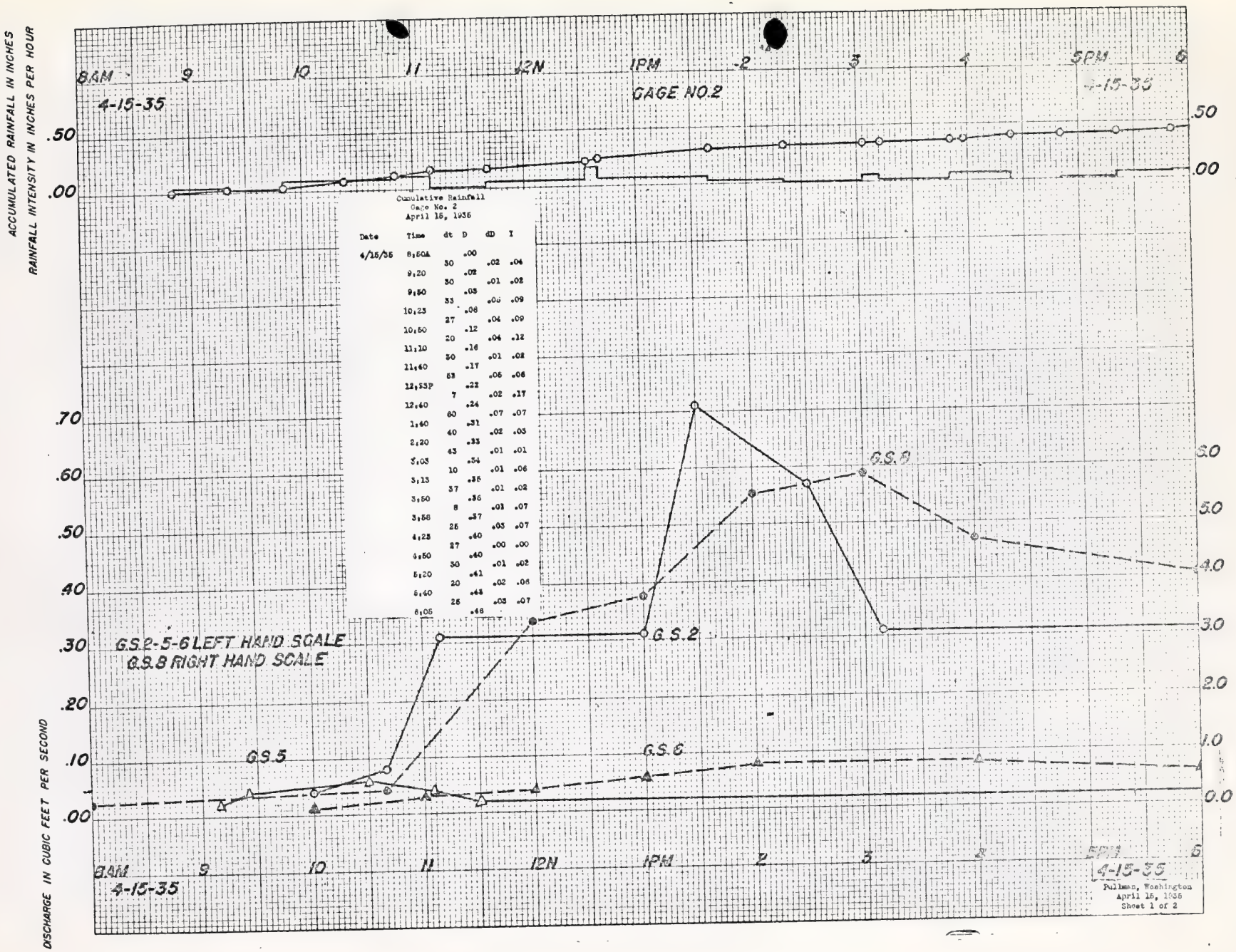
RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Month Nov.-Dec., 19 35

Project Pullman, Washington

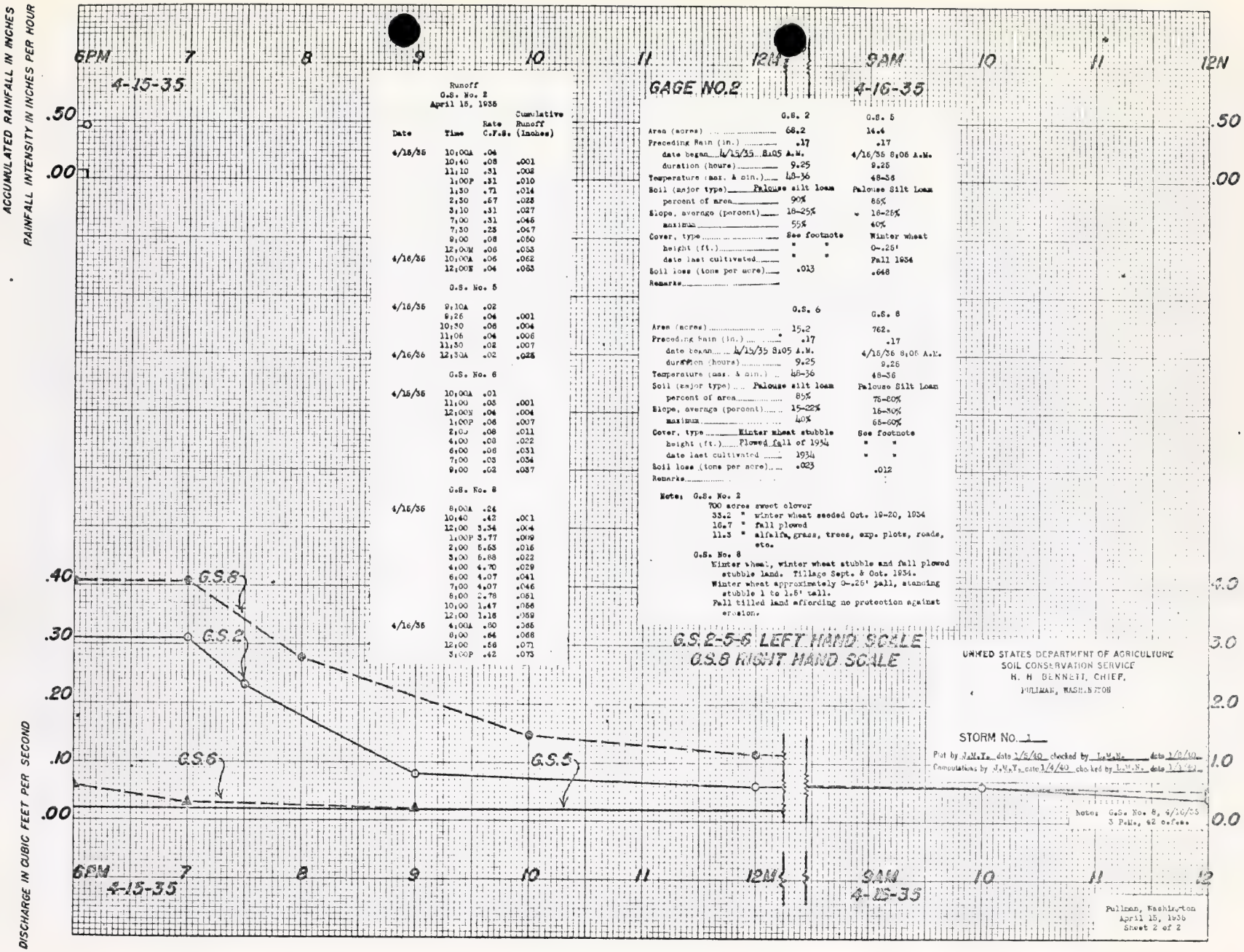
Sheet 5 of 5 sheets

Date	Watershed		Rainfall							Temperature (Degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu ft sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										November (Continued)									
11/23-24			2	7:50PM	610	0.10	0.12	0.08	0.06	40	28			No runoff					
11/25			2	3:55PM	50	0.04	0.12	0.08	0.04	44	31			ditto					
										December									
12/6			2			0.10		Snow		36	22			"					
12/7			2	1:20PM	435	0.17	0.12	0.12	0.12	37	26			"					Snow melted with rain of 12/7/35.
12/9			2	9:05PM	65	0.05	0.04	0.04	0.04	41	33			"					
12/11-12			2	1:35PM	1055	0.56	0.12	0.10	0.10	40	31			"					
12/24-25			2	9 PM	550	0.06	0.02	0.02	0.02	38	20			"					
12/25-26			2	12Noon	1230	0.46	0.06	0.04	0.02	39	31			"					
12/27	G.S.6	15.2	2	4:20AM	1160	0.35	0.12	0.08	0.06	40	33	6 AM	12 PM	0.02	0.14	9:22AM		0.009	
										No runoff occurred on other gaging stations or terraces.									
12/30	G.S.2		2	3 AM	740	0.45	0.12	0.12	0.12	37	33			No runoff					
	G.S.5									37	33			" "					
	G.S.6									37	33	6 AM	12 PM	0.01	0.10	3:40PM		0.006	
	Ter.15									37	33			No runoff					
	Ter.16									37	33			" "					
	Ter.17									37	33			" "					
	Ter.18									37	33			" "					
	G.S.4									37	33			" "					
12/30-31	G.S.2		2	9:40PM	620	0.31	0.12	0.12	0.12	38	32	2 AM(31)	12PM	0.02	0.11	4 AM		0.001	
	G.S.5									38	32			No runoff					
	G.S.6									38	32	12 PM	12 PM	0.06	0.16	12Noon		0.075	
	Ter.15									38	32			0.03				0.000	Measured in silt box
	Ter.16									38	32			0.05				0.000	" " " "
	Ter.17									38	32			No runoff					
	Ter.18									38	32			" "					
	G.S.4									38	32			" "					Dec. 31, no snow on ground.



Cumulative Rainfall
Gage No. 2
April 15, 1935

Date	Time	dt	D	dD	I
4/15/35	8:50A		.00		
		30		.02	.04
	9:20		.02		
		30		.01	.02
	9:50		.03		
		33		.06	.09
	10:23		.08		
		27		.04	.09
	10:50		.12		
		20		.04	.12
	11:10		.16		
		30		.01	.02
	11:40		.17		
		53		.05	.06
	12:33P		.22		
		7		.02	.17
	12:40		.24		
		60		.07	.07
	1:40		.31		
		40		.02	.03
	2:20		.33		
		43		.01	.01
	3:03		.34		
		10		.01	.06
	3:13		.35		
		37		.01	.02
	3:50		.36		
		8		.01	.07
	3:58		.37		
		25		.03	.07
	4:23		.40		
		27		.00	.00
	4:50		.40		
		30		.01	.02
	5:20		.41		
		20		.02	.06
	5:40		.43		
		25		.03	.07
	6:05		.46		



Runoff
G.S. No. 2
April 15, 1935

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/15/35	10:00A	.04	
	10:40	.08	.001
	11:10	.31	.002
	1:00P	.31	.010
	1:30	.71	.014
	2:30	.57	.023
	3:10	.31	.027
	7:00	.31	.045
	7:30	.23	.047
	9:00	.08	.050
	12:00M	.06	.053
4/16/35	10:00A	.06	.062
	12:00N	.04	.063

G.S. No. 5

4/15/35	9:10A	.02	
	9:25	.04	.001
	10:30	.08	.004
	11:05	.04	.006
	11:30	.02	.007
4/16/35	12:30A	.02	.025

G.S. No. 6

4/15/35	10:00A	.01	
	11:00	.03	.001
	12:00N	.04	.004
	1:00P	.06	.007
	2:00	.08	.011
	4:00	.08	.022
	6:00	.06	.031
	7:00	.03	.034
	9:00	.02	.037

G.S. No. 8

4/15/35	8:00A	.24	
	10:40	.42	.001
	12:00	3.34	.004
	1:00P	3.77	.009
	2:00	5.53	.016
	3:00	5.88	.022
	4:00	4.70	.029
	6:00	4.07	.041
	7:00	4.07	.046
	8:00	2.78	.051
	10:00	1.47	.056
	12:00	1.16	.059
4/16/35	4:00A	.80	.065
	8:00	.64	.068
	12:00	.56	.071
	3:00P	.42	.073

GAGE NO.2

	G.S. 2	G.S. 5
Area (acres)	68.2	14.4
Preceding Rain (in.)	.17	.17
date began	4/15/35 8:05 A.M.	4/15/35 8:05 A.M.
duration (hours)	9.25	9.25
Temperature (max. & min.)	48-36	48-36
Soil (major type)	Palouse silt loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	18-25%
maximum	55%	40%
Cover, type	See footnote	Winter wheat
height (ft.)	" "	0-.25'
date last cultivated	" "	Fall 1934
Soil loss (tons per acre)	.013	.648
Remarks		

	G.S. 6	G.S. 8
Area (acres)	15.2	762.
Preceding Rain (in.)	.17	.17
date began	4/15/35 8:05 A.M.	4/15/35 8:05 A.M.
duration (hours)	9.25	9.25
Temperature (max. & min.)	48-36	48-36
Soil (major type)	Palouse silt loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	15-22%	15-30%
maximum	40%	55-60%
Cover, type	Winter wheat stubble	See footnote
height (ft.)	Plowed fall of 1934	" "
date last cultivated	1934	" "
Soil loss (tons per acre)	.023	.012
Remarks		

Note: G.S. No. 2
700 acres sweet clover
33.2 " winter wheat seeded Oct. 19-20, 1934
16.7 " fall plowed
11.3 " alfalfa, grass, trees, exp. plots, roads, etc.

G.S. No. 8
Winter wheat, winter wheat stubble and fall plowed stubble land. Tillage Sept. & Oct. 1934.
Winter wheat approximately 0-.25' tall, standing stubble 1 to 1.5' tall.
Fall tilled land affording no protection against erosion.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 1

Plot by J.M.Y. date 1/5/40 checked by L.M.N. date 1/9/40
Computations by J.M.Y. date 1/4/40 checked by L.M.N. date 1/1/40

Note: G.S. No. 8, 4/16/35
3 P.M., 42 c.f.s.

Pullman, Washington
April 15, 1935
Sheet 2 of 2

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT Pullman, Washington

MONTH _____, 1936

SHEET 1 OF 7 SHEETS

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	Maximum Intensity: 15 minutes (inches per hour)	Maximum Intensity: 30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January									
*1/1-3			2	6 AM	1470	0.95	0.24	0.24	0.20	40	31								
1/3			2	11:57AM		0.04	0.10	0.10	0.08	40	31								
1/1-3	G.S. 2	68.2								40	31	7:30PM	10 AM	0.025	0.08	1 PM(2)	0.97	0.001	
1/2	G.S. 5	14.4								40	31	7 AM	12 PM	0.010	0.02	10:40AM(2)	0.98	0.000	
1/1-3	G.S. 6	15.2								40	31	7:30AM	3:41AM	0.039	0.03	10 AM(2)	0.95	0.007	
	G.S. 8	762								40	31	6 PM	10 AM	0.036	2.78	6:10PM(2)	0.95	0.008	
1/1-2			11	6:15AM	1515	0.88	0.16	0.16	0.14	40	31								
1/2			11	12Noon	60	0.05	0.05	0.05	0.05	40	31								
1/1-2	Ter.15	0.89								40	31	7 PM	12 PM	0.315	0.024	3 AM(2)	0.61	0.068	
1/1-3	Ter.16	0.82								40	31	5:30PM	12Noon	0.254	0.018	2:50AM(2)	0.68	0.046	
	Ter.17	0.92								40	31				No runoff				
	Ter.18	1.18								40	31				" "				
	G.S. 4	2.33								40	31				0.018			0.006	Measured in silt box.
1/3-4			2			1.21	Snow and rain			44	30								
1/8			2			0.12	Snow			37	27								
1/3-9	G.S. 2									44	26	10 AM	4 PM	0.135	0.31	2 AM(5)		0.011	
1/4-9	G.S. 5									44	26	12:01A	12 PM	0.030	0.02	12Noon(5)		0.001	
1/3-9	G.S. 6									44	26	5:20PM	5:40PM	0.204	0.14	11:20AM(4)		0.116	
	G.S. 8									44	26	10 AM	5:10PM	0.123	9.11	12:50PM(4)		0.042	
1/2-9	Ter.15									44	26	12 PM	6:30PM	0.322	0.038	12:10PM(4)		0.388	
1/3-5	Ter.16									44	29	12Noon	10:05PM	0.573	0.031	2 PM(4)		0.214	
1/4-5	Ter.17									44	29			0.013				0.001	Measured in silt box.
	Ter.18									44	29			No runoff					
	G.S. 4									44	29				0.305			0.306	Measured in silt box.
*1/9			2	9:50AM	750	0.43	0.12	0.14	0.12	38	28								
1/9-10	G.S. 2									42	28	4 PM	6 AM	0.015	0.16	11 PM	0.41	0.000	
	G.S. 5									42	28			No runoff					
	G.S. 6									42	28	5:40PM	9 AM	0.016	0.02	10:10PM	0.41	0.001	
	G.S. 8									42	28	4 PM	12:30PM	0.021	2.03	12:30AM	0.41	0.001	
1/9			11	9:50AM	760	0.43	0.15	0.12	0.09	38	28								
1/9-10	Ter.15									42	28	5:30PM	8 AM	0.016	0.001	5:40PM	0.41	0.001	
	Ter.16									42	28	4 PM	2:30AM	0.053	0.008	11:30PM	0.38	0.003	
	Ter.17									42	28			No runoff					
	Ter.18									42	28			" "					
	G.S. 4									42	28	5:10PM	1 AM	0.091	0.04	9:05PM	0.34	0.040	
1/10	G.S. 2					0.00				42	30	6 AM	12Noon	0.004	0.04	9:00AM	—	0.000	
	G.S. 6									42	30	9 AM	12:30PM	0.002	0.01	9:00AM	—	0.000	
	G.S. 8									42	30	12:30PM	12:30PM		No runoff				
	Ter.15									42	30	8 AM	8:20AM	0.001	0.004	8 AM	—	0.000	
	Ter.16									42	30	2:30AM	7 AM		No runoff				
	G.S. 4,	Ter. 17-18								42	30			No runoff					

*Storms for which graphs were prepared.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month _____, 1936

Sheet 2 of 7 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F.)	Temperature Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January (Continued)									
*1/10			2	9:50AM	705	0.49	0.09	0.08	0.08	42	30								
1/11			2	12:57PM	223	0.16	0.10	0.10	0.10	43	33								
1/10-11	G.S. 2	68.2								43	30	12Noon	10 AM	0.048	0.23	8 PM	0.60	0.009	Wheat and sweet clover offer
	G.S. 5	15.2								43	30	1:20PM	3 PM	0.035	0.03	9 AM	0.61	0.007	little protection. Soil -
	G.S. 6	14.4								43	30	12:30PM	4 PM	0.090	0.20	3:30AM	0.56	0.016	freeze at night and thaw during
	G.S. 8	762.								43	30	12:30PM	12 PM	0.099	5.53	3:30AM	0.55	0.021	day.
*1/10			11	9:50AM	705	0.49	0.09	0.08	0.07	42	30								
1/11			11	12:57AM	223	0.16	0.10	0.10	0.10	43	33								
1/10-12	Ter.15	0.89								43	30	8:20AM	1 AM	0.372	0.013	3 AM(11)	0.28	0.068	
1/10-11	Ter.16	0.82								43	30	7 AM	12 PM	0.250	0.024	3:20AM	0.40	0.132	
	Ter.17	0.92								43	30			0.009			0.64	0.005	Measured in silt box.
	Ter.18	1.18								43	30			0.023			0.60	0.007	" " " "
	G.S. 4	2.33								43	30	7:50PM	9:50AM	0.153	0.08	3:45AM	0.50	0.075	
1/11-12	G.S. 2		2			0.00				43	32	10 AM	8 AM	0.003	0.001	12 PM		0.000	
	G.S. 5									43	32	3 PM	7 AM	0.004	0.001	8 PM		0.005	
	G.S. 6									43	32	4 PM	8 AM	0.015	0.001	12 PM		0.002	
	G.S. 8									43	32	12 PM	4:30AM	0.002	0.000			0.000	
1/12	Ter.15		11			0.00				42	32	1 AM	4 AM	0.003	0.001	1 AM		0.000	
1/11-12	Ter.16									43	32	12 PM	8 AM	0.008	0.001	8 AM		0.004	
	Ter.17									43	32			No runoff					
	Ter.18									43	32			No runoff					
	G.S. 4									43	32			No runoff					
*1/12-13	G.S. 2		2	2:30AM	1500	1.08	0.12	0.12	0.12	42	32	8 AM	3 PM	0.088	0.53	9:30PM	0.99	0.010	
	G.S. 5									42	32	7 AM	4 PM	0.028	0.02	8 PM	1.05	0.001	
	G.S. 6									42	32	8 AM	3 PM	0.134	0.28	9:10PM	0.95	0.107	
	G.S. 8									42	32	4:30AM	12 PM	0.173	12.84	9:40PM	(12)0.91		
	Ter.15		11	2:30AM	1485	1.08	0.24	0.12	0.12	42	32	4 AM	6 AM	0.190	0.013	7 PM	0.89	0.019	
	Ter.16									42	32	8 AM	12Noon	0.334	0.024	9 PM	0.75	0.172	
	Ter.17									42	32			0.105			0.98	0.061	Measured in silt box.
*1/12	Ter.18									42	32	9 AM	11:40PM	0.180	0.024	9:20PM	0.90	0.069	
1/12-13	G.S. 4									42	32	5:15AM	8 AM	0.317	0.12	8:30PM	0.76	0.289	
1/13	G.S. 2		2			0.00				39	36	3 PM	12 PM	0.008	0.001	9 PM	--		
	G.S. 5									39	36	4 PM	12 PM	0.003	0.000		--		
	G.S. 8									39	36	3 PM	12 PM	0.009	0.001	10 PM	--		
	Ter.15		11			0.00				39	36	6 AM	12 PM	0.157	0.009	12 PM	--		
	Ter.16									39	36	12Noon	12 PM	0.060	0.005	12 Noon	--		
	Ter.17									39	36			No runoff					
	Ter.18									39	36			No runoff					
	G.S. 4									39	36	8 AM	12 PM	0.003	0.002	10:20PM			

*Storms for which graphs were prepared.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month _____, 1936

Sheet 3 of 7 sheets

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F) Maximum	Temperature (degrees F) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
									January (Continued)										
1/14			2	10:10AM	410	0.08	0.12	0.12	0.08	39	31								
1/13-17	G.S. 2	68.2								42	29	96 hours		0.065	0.270	1 AM(16)		0.008	
	G.S. 5	14.4								42	29	"	"	0.009	0.007	9 AM(16)		0.002	
	G.S. 6	15.2								42	29	"	"	0.037	0.020	12PM(14)		0.029	
	G.S. 8	762								42	29	"	"	0.046	0.97	10PM(14)		0.001	
	Ter.15	.89								42	29	"	"	0.201	0.008	12Noon(14)		0.017	Carry-over of ground water.
	Ter.16	.82								42	29	"	"	0.120	0.004	12Noon(14)		0.011	
	Ter.17	.92								42	29	"	"	No runoff					
	Ter.18	1.18								42	29	"	"	"	"				
	G.S. 4	2.33								42	29	"	"	0.048	0.030	2:30AM(14)		0.008	
1/17			2			0.02		Snow		33	29								
1/18			2			0.11		"		32	25								
1/19			2			0.28		"		32	24								
1/27			2			0.16				32	24								
1/18-27	G.S. 2									38	17	216 hours		0.095	0.08	2 AM(27)		0.003	Thaw.
1/18-27	G.S. 5									38	17	"	"	0.051	0.02	9 AM(26)		0.001	"
1/18-27	G.S. 6									38	17	"	"	0.128	0.06	9 PM(19)		0.003	"
1/18-27	G.S. 8									38	17	"	"	0.073	1.26	4:30PM(22)		0.001	"
1/18-27	Ter.15									38	17	"	"	0.046	--	--		0.004	Measured in silt box. Thaw.
1/18-27	Ter.16									38	17	"	"	0.064	--	--		0.006	" " " " "
1/18-27	Ter.17									38	17			No runoff					
1/18-27	Ter.18									38	17			"	"				
1/18-21	G.S. 4									38	17	"	"	0.025	--	--		0.016	Measured in silt box. Thaw.
1/28-31	G.S. 2									28	-2	96 hours		0.029	0.02	Constant		0.000	Thaw.
1/28-31	G.S. 5									28	-2	"	"	0.019	0.003	"		0.000	"
1/28-31	G.S. 6									28	-2	"	"	0.029	0.004	"		0.000	"
1/28-31	G.S. 8									28	-2	"	"	0.004	0.01	"		0.000	"
1/28-31	Terraces 15, 16, 17, 18 and G.S. 4													No runoff					
									February										
2/2			2			0.02		Snow		25	1	No runoff occurred on terraces or gaging stations.							
2/3			2			0.01		"		17	0	"	"	"	"	"	"	"	Soil frozen hard all through
2/4			2			0.11		"		20	-5	"	"	"	"	"	"	"	February.
2/5			2			0.11		"		30	12	"	"	"	"	"	"	"	"
2/8			2			0.09		"		7	-14	"	"	"	"	"	"	"	"
2/9			2			0.01		"		12	-9	"	"	"	"	"	"	"	"
2/11			2			0.18		"		16	10	"	"	"	"	"	"	"	"
2/12			2			0.24		"		8	-22	"	"	"	"	"	"	"	"
2/17			2			0.04		"		15	-8	"	"	"	"	"	"	"	"
2/18			2			0.12		"		11	-6	"	"	"	"	"	"	"	"
2/20			2			0.11		"		33	0	"	"	"	"	"	"	"	"

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month _____, 19 36

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Sheet 4 of 7 sheets

Project Pullman, Washington

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F.) Maximum	Temperature (degrees F.) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
									February (Continued)										
										45	15	No runoff occurred on terraces or gaging stations.							
2/21			2		450	0.13	0.12	0.08	0.08	32	28								
2/23			2			0.02	Snow			29	20								
2/24			2			0.03	"												
										44	18	120 hours		0.19	0.04	12Noon(22)		0.003	Melting snow. Soil frozen.
2/22-26	G.S. 2	68.2								44	18	120 "		0.02	0.003	12Noon(22)		0.000	" " " "
2/22-26	G.S. 5	14.4								44	18	120 "		0.09	0.02	10AM(23)		0.010	" " " "
2/22-26	G.S. 6	15.2								44	18	120 "		0.05	0.42	4 PM(23)		0.001	" " " "
2/22-26	G.S. 8	762.								44	18	120 "		0.094	0.001	12Noon(22)		0.005	" " " "
2/22-26	Ter.15	.98								38	18	Intermittent		0.031	0.001	1:55PM(22)		0.002	" " " "
2/22-26	Ter.16	.82								38	18	"		0.103	0.004	12:20PM(23)		0.005	" " " "
2/22-26	Ter.17	.92								44	27	10:55AM	12:30PM	0.254	0.046	8 AM(23)		0.016	" " " "
2/22-23	Ter.18	1.18								44	27	11:45AM	8 PM	0.558	0.08	6 AM(23)		0.025	" " " "
2/22-23	G.S. 4	2.33																	
2/27			2	7:25AM	100	0.05	0.06	0.04	0.02	42	34								
2/27			2	2:50PM	440	0.21	0.06	0.06	0.06	42	34								
										56	34	72 hours		0.554	2.09	2:10PM(27)		0.053	" " " "
	G.S. 2									56	34	" "		0.121	0.06	5 PM(27)		0.021	" " " "
2/27-29	G.S.									56	34	" "		0.184	0.25	3:20PM(27)		0.692	" " " "
2/27-29	G.S. 6									56	34	" "		0.569	19.13	2:15PM(28)		0.150	" " " "
2/27-29	G.S. 8									56	34	" "		0.899	0.031	9:40PM(27)		0.177	" " " "
2/27-29	Ter.15									56	34	" "		0.817	0.031	12:30PM(28)		0.120	" " " "
2/27-29	Ter.16									56	34	" "		0.339	0.024	12:10PM(28)		0.058	" " " "
2/27-29	Ter.17									56	34	9:50AM	8:30PM	0.236	0.024	12:40PM(28)		0.029	" " " "
2/27-29	Ter.18									56	18	1 PM	12 PM	1.801	0.25	3:45PM(27)		0.597	" " " "
2/25-29	G.S. 4																		
2/29			2	12:05AM	60	0.02	0.04	0.04	0.02	56	36								
									March										
										59	30	12 PM	8 PM	0.154	0.23	12 PM(29)		0.015	
2/29-3/7	G.S. 2									59	30	12 PM	8 PM	0.186	0.04	1 PM(1)		0.033	
2/29-3/7	G.S. 5									59	30	12 PM	8 AM	0.273	0.20	11:30AM(1)		0.159	
2/29-3/8	G.S. 6									59	30	12 PM	10 PM	0.363	8.51	4 PM(1)		0.086	
2/29-3/7	G.S. 8									59	30	12 PM	8 AM	0.177	0.008	12Noon(1)		0.007	
2/29-3/7	Ter.15									59	32	12 PM	12 PM	0.074	0.004	3 AM(1)		0.007	
2/29-3/6	Ter.16									59	33	12 PM	12 PM	0.004	—	—		0.000	
2/29-3/2	Ter.17									59	30	No runoff occurred.							
2/29-3/7	Ter.18									59	30	12 PM	6 PM	0.084	0.004	12Noon(1)		0.264	
2/29-3/7	G.S. 4																		

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: _____, 1936

Sheet 5 of 7 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F.) Maximum	Temperature (degrees F.) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										March (Continued)									
*3/7-8-9	G.S. 2	68.2	2	7:50PM	1430	0.38	0.18	0.12	0.08	48	30	8 PM	7 AM	0.046	0.211	5:10PM(8)	0.33	0.002	Diversified cover.
	G.S. 5	14.4								48	30	8 PM	6:40AM	0.071	0.06	9 PM(8)	0.31	0.003	Rough plowed.
3/8-9	G.S. 6	15.2								47	30	8 AM	2 AM	0.035	0.07	8:20PM(8)	0.34	0.009	First year sweet clover. Little cover
3/7-9	G.S. 8	762.								48	30	10 AM	9 AM	0.076	3.19	9:30PM(8)	0.30	0.001	Diversified cover.
			Terraces and G.S. 4 did not run off.																
3/9-14	G.S. 2									47	26	7 AM	2 PM	0.124	0.136	8 AM(12)			
	G.S. 5									47	26	6:40AM	1 PM	0.141	0.06	7:40AM(14)			
	G.S. 6									47	26	2 AM	1 PM	0.124	0.07	1 AM(14)			
	G.S. 8									47	26	9 AM	1 PM	0.092	2.15	8:30AM(12)			
3/12			2	5:15AM	160	0.14	0.12	0.08	0.08	47	31								
3/13			2	2:30PM	40	0.02	0.12	0.08	0.06	42	33								
*3/14	G.S. 2		2	1:10PM	355	0.15	0.05	0.05	0.05	38	30	2 PM	12 PM	0.013	0.115	7:30PM	0.14	0.003	Soil firm but wet.
*3/14-15	G.S. 5									48	30	1 PM	5 AM	0.037	0.06	6:40PM(14)	0.11	0.002	
	G.S. 6									48	30	1 PM	4 AM	0.021	0.06	8 PM(14)	0.13	0.146	
	G.S. 8									48	30	1 PM	2 AM	0.011	0.88	9 PM(14)	0.14	0.006	
			Terraces and G.S. 4 did not run off.																
3/14-23	G.S. 2									61	20	12 PM	12 PM	0.089	0.106	2 AM (15)		0.005	
3/15-19	G.S. 5									57	28	5 AM	8:30AM	0.169	0.13	8:50AM(15)		0.006	
3/15-23	G.S. 6									61	20	4 AM	12 PM	0.098	0.06	8 PM(15)		0.004	
3/15-23	G.S. 8									61	20	2 AM	12 PM	0.113	4.70	12:30PM(15)		0.004	
3/23			2			0.03	Snow			37	20								
3/23-27	G.S. 2									41	20	12 PM	8 AM	0.024	0.046	4 PM(26)		0.002	
3/19-27	G.S. 5									61	20		No runoff						
3/23-27	G.S. 6									41	20	12 PM	6 AM	0.009	0.008	12:10PM(23)		0.001	
3/23-27	G.S. 8									41	20	12 PM	8 AM	0.020	0.49	7 PM(26)		0.001	
3/26			2			0.01	Snow			41	27								Melted as fell. No carry-over to next day.
*3/27	G.S. 2		2	7:50AM	430	0.46	0.16	0.16	0.16	40	33	8 AM	9 PM	0.051	0.71	1:50PM	0.41	0.015	
	G.S. 5									40	33	9:20AM	8:10PM	0.034	0.16	2 PM	0.43	0.032	
	G.S. 6									40	33	6 AM	8:30PM	0.046	0.18	2:10PM	0.42	0.048	
	G.S. 8									40	33	8 AM	12 PM	0.050	9.74	3 PM	0.41	0.023	
			Terraces and G.S. 4 did not run off.																
3/28			2			0.25	Snow			34	26								
3/29			2			0.01	"			30	18								
3/27-31	G.S. 2									40	16	9 PM	3 AM	0.143	0.147	12:30PM(30)		0.045	Melting snow and ground water.
3/27-30	G.S. 5									40	16	8:10PM	9 PM	0.060	0.06	9:20PM(27)		0.036	
3/27-31	G.S. 6									40	16	8:30PM	12 PM	0.088	0.08	12 PM(27)		0.000	
	G.S. 8									40	16	12 PM	12 PM	0.14	1.58	4 PM(29)		0.065	

* Storms for which graphs were prepared.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
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RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month _____, 19 36

Sheet 6 of 7 sheets

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	Maximum Intensity: 15 minutes (inches per hour)	Maximum Intensity: 30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										April									
4/1			2			0.09		Snow		28	-6								
4/3			2			0.07		"		34	14								
4/1-21	G.S. 2	682								85	-6	12:01AM	12PM	0.10	0.147	4 PM(1)		0.005	
4/1-21	G.S. 5	14.4								85	-6		No runoff.						
4/1-21	G.S. 6	15.2								85	-6	12:01AM	12PM	0.04	0.051	11 AM(4)		0.002	
4/1-21	G.S. 8	762								85	-6	12:01AM	12PM	0.12	1.47	4 PM(3)		0.008	
			No runoff on terraces or G.S. 4.																
4/22			2	1:15PM	110	0.28	0.36	0.24	0.24	61	52								
4/24			2	11:40PM	650	0.19	0.36	0.20	0.12	55	47								
4/27			2	12:15PM	30	0.03	0.12	0.06	0.06	60	38								
4/30			2	6:15PM	45	0.02	0.08	0.04	0.02	64	39								
4/21-5/1	G.S. 2									80	38	12 PM	12 PM	0.05	0.072	2:45PM(22)		0.000	
4/21-5/1	G.S. 5									80	38		No runoff.						
4/21-30	G.S. 6									80	38	12 PM	12 PM	0.01	0.010	10:20PM(22)		0.000	
4/21-30	G.S. 8									80	38	12 PM	12 PM	0.004	0.03	12Noon(23)		0.000	
										May									
5/2			2	8:40PM	70	0.31	0.72	0.52	0.36	65	48								
5/4			2	2:30PM	5	0.03	0.36	0.12	0.06	60	51								
5/5			2	2:30AM	300	0.32	0.30	0.16	0.14	47	40								
5/5			2	1:20PM	15	0.04	0.16	0.16	0.08	47	40								
5/14			2	2:55PM	300	0.24	0.84	0.48	0.28	69	58								
5/16			2	2:30AM	270	0.09	0.08	0.08	0.06	58	42								
5/27			2	7:10PM	60	0.05	0.12	0.08	0.06	86	59								
5/1-19	G.S. 2									89	35	12 PM	12Noon	0.05	0.197	9:50(2)		0.001	
			No runoff occurred on other gaging stations or terraces.																
										June									
6/1			2	1 AM	240	0.05	0.06	0.04	0.04	60	45		No runoff.						
6/1			2	11:40AM	60	0.03	0.12	0.08	0.04	60	45		"	"					
6/2-3			2	9:50AM	1350	0.32	0.08	0.08	0.06	55	44		"	"					
6/6			2	6:55PM	150	0.19	0.24	0.10	0.10	72	45		"	"					
6/7			2	11:40AM	380	0.13	0.30	0.12	0.10	60	51		"	"					
6/11			2	7:25PM	300	0.05	0.24	0.12	0.06	79	41		"	"					
6/13			2	9:10PM	20	0.03	0.06	0.06	0.06	79	41		"	"					
6/14			2	2:45PM	10	0.06	0.36	0.24	0.12	60	41		"	"					
6/15			2	3:40AM	10	0.02	0.30	0.08	0.04	70	39		"	"					
6/17			2	7 PM	30	0.02	0.06	0.04	0.04	70	34		"	"					

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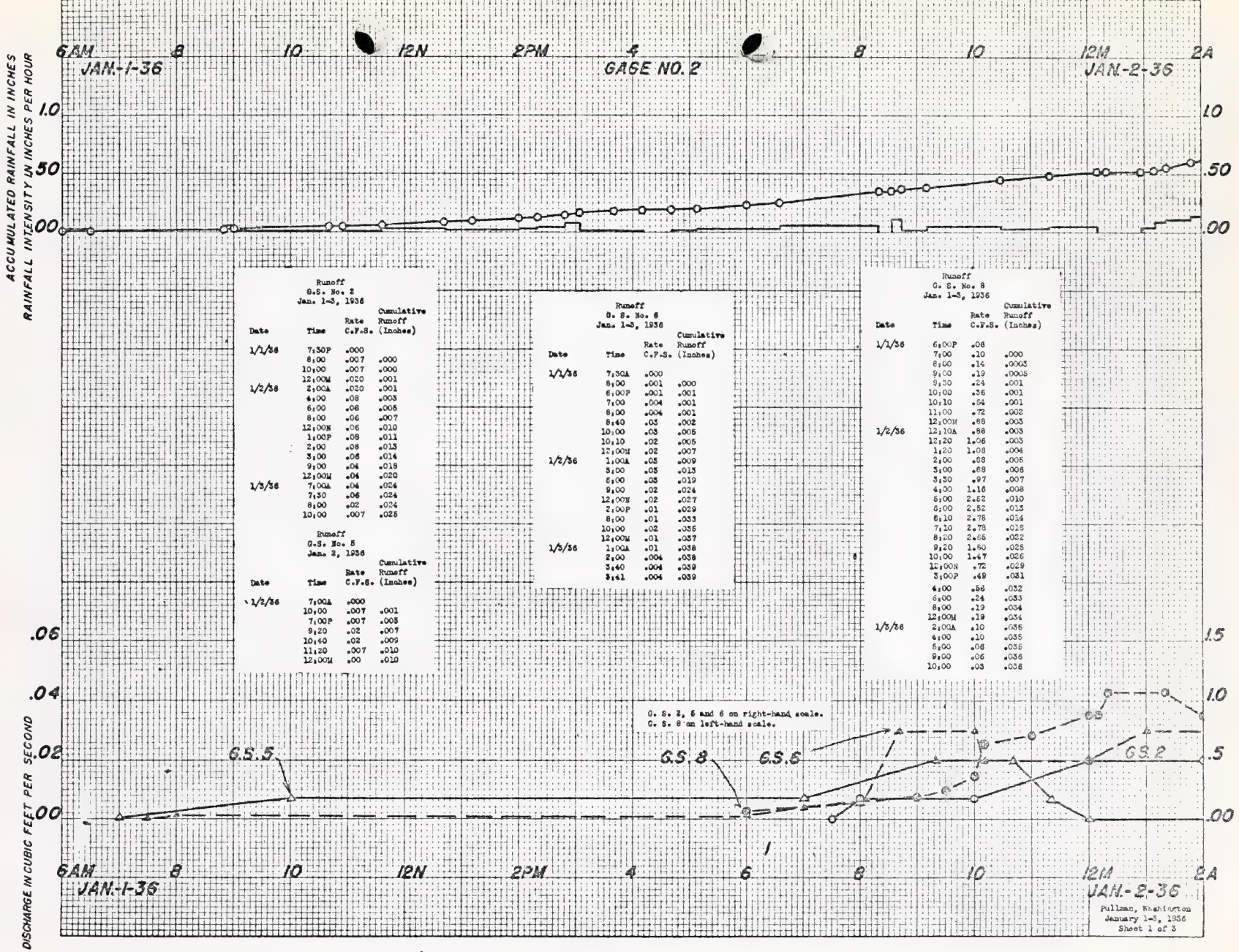
RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: _____, 1936

Sheet 7 of 7 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F.)	Temperature Minimum (degrees F.)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										July									
7/8			2	1:55AM	60	0.02	0.08	0.04	0.02	80	51		No runoff.						
7/9			2	12:40AM	210	0.02	0.03	0.02	0.02	72	53		"	"					July - September, soil very dry.
7/14			2	1:15AM	300	0.04	0.24	0.08	0.04	81	48		"	"					
										September									All crops harvested in August 1936 - combine harvester.
9/1-2			2	6:30AM	1710	1.11	0.24	0.20	0.16	61	49		"	"					All fall tillage and planting September and October.
9/3			2	12:50AM	160	0.11	0.12	0.08	0.06	65	50		"	"					Sept. 1-15 soil dry to moist.
9/5			2	12:30AM	30	0.01	0.04	0.02	0.02	69	54		"	"					
9/13			2	1:30AM	60	0.01	0.04	0.01	0.01	55	33		"	"					
9/14			2	2:50AM	40	0.04	0.24	0.12	0.10	50	38		"	"					
9/14			2	4:30PM	60	0.05	0.24	0.08	0.06	50	38		"	"					
										October									
10/5			2			0.01	No record.			63	39		"	"					G.S. 2, Oct. 1 - Dec. 31
10/14			2	3:20PM	260	0.26	0.60	0.32	0.16	61	51		"	"					25.6 acres winter wheat on summer fallow.
										November									20.7 acres winter wheat stubble rough plowed in September.
11/3			2	7:50PM	190	0.05	0.12	0.04	0.04	46	15		"	"					10.6 acres spring wheat stubble plowed in September.
11/4			2		150	0.06	0.06	0.04	0.04	47	28		"	"					
11/17			2			0.01	No record			55	30		"	"					11.3 acres miscellaneous, alfalfa, sweet clover, grasses and exp. plots.
										December									
12/4			2			0.06		Snow		34	18		"	"					G.S. 5, fall plowed and seeded to winter wheat in October 1936.
12/5			2			0.11		"		40	24		"	"					
12/6			2	4:05AM	120	0.30	0.24	0.20	0.14	50	39		"	"					
12/6-7			2	10:10PM	220	0.30	0.16	0.16	0.14	50	39		"	"					
12/8			2	1:30PM	280	0.19	0.16	0.12	0.10	40	33		"	"					G.S. 6, peas and sweet clover plowed under in June. Seeded to winter wheat in Oct. 1936.
12/13			2	4 PM	250	0.04	0.03	0.02	0.02	47	36		"	"					
12/14			2			0.15		Snow		41	35		"	"					
12/17			2	9:50AM	80	0.05	0.12	0.10	0.09	47	27		"	"					
12/21			2	11:20AM	720	0.23	0.18	0.12	0.08	44	35		"	"					G.S. 8, natural watershed with sufficient number of fields that each year presents average conditions of vegetative cover.
12/23			2			0.45		Rain and snow.		45	39		"	"					
12/24			2	11:30AM	110	0.03	0.06	0.04	0.04	37	30		"	"					
12/28			2			0.02		Snow		30	26		"	"					
12/29			2			0.01		"		26	19		"	"					
12/31			2			0.04		"		29	18		"	"					Terraces 15, 16, 17, 18 and G.S. 2, winter wheat stubble harvested August 1936.



Runoff
G.S. No. 2
Jan. 1-3, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/1/36	7:30P	.000	
	8:00	.007	.000
	10:00	.007	.000
	12:00M	.020	.001
1/2/36	2:00A	.020	.001
	4:00	.08	.003
	6:00	.08	.005
	8:00	.06	.007
	12:00N	.06	.010
	1:00P	.08	.011
	2:00	.08	.013
	3:00	.06	.014
	9:00	.04	.018
	12:00M	.04	.020
1/3/36	7:00A	.04	.024
	7:30	.06	.024
	8:00	.02	.024
	10:00	.007	.026

Runoff
G.S. No. 5
Jan. 2, 1936

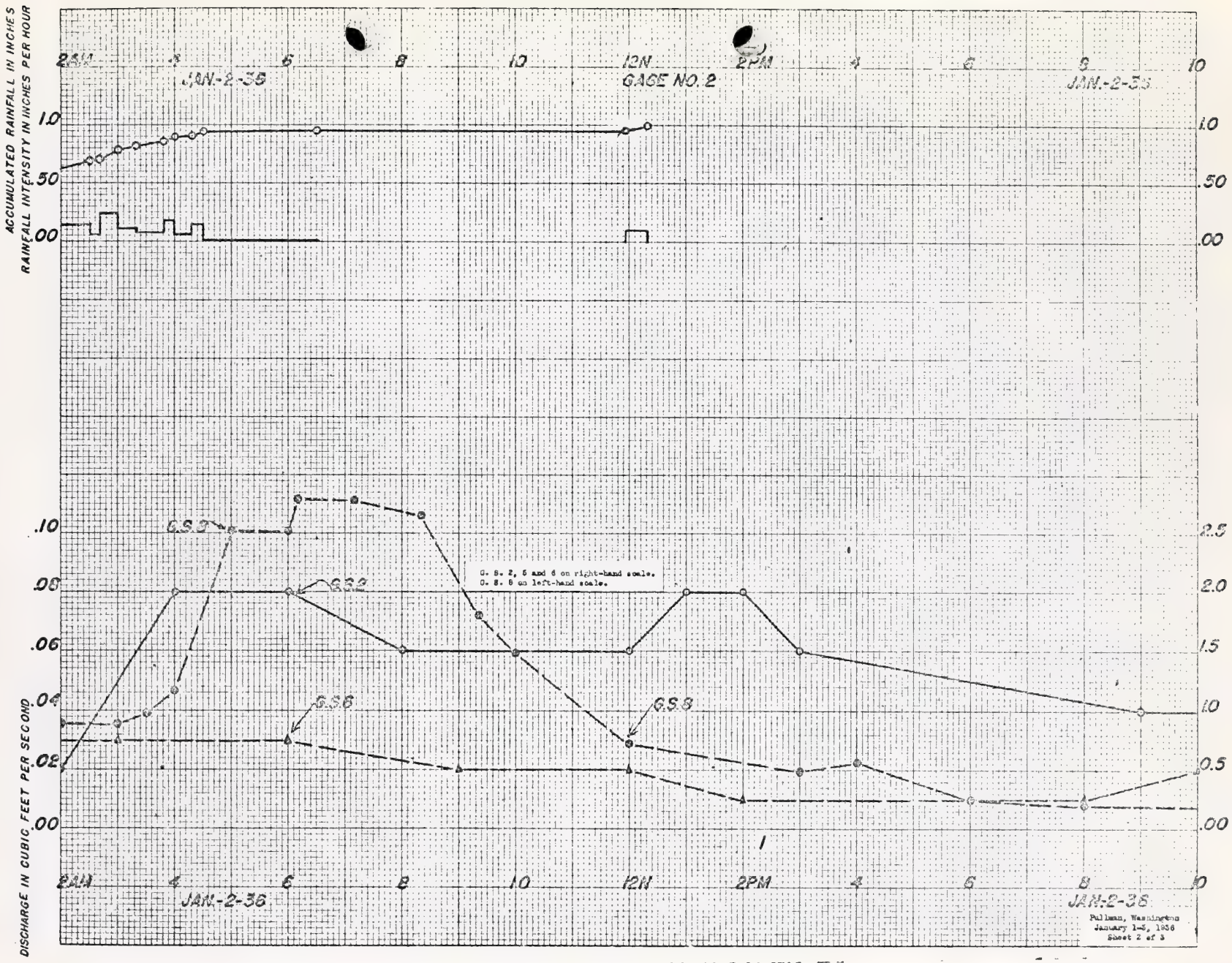
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/2/36	7:00A	.000	
	10:00	.007	.001
	7:00P	.007	.003
	9:20	.02	.007
	10:40	.02	.009
	11:20	.007	.010
	12:00M	.00	.010

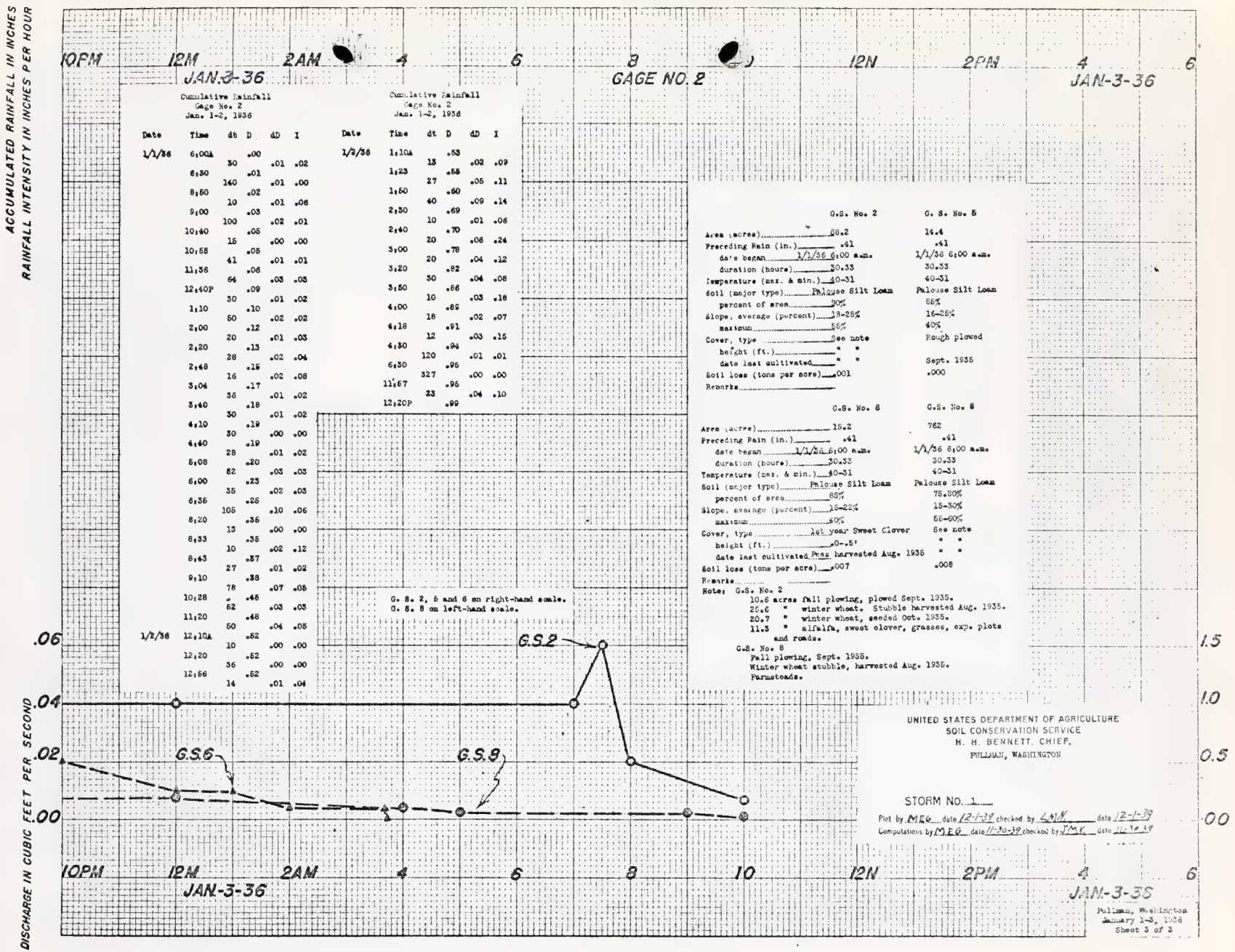
Runoff
G. S. No. 6
Jan. 1-3, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/1/36	7:30A	.000	
	8:00	.001	.000
	6:00P	.001	.001
	7:00	.004	.001
	8:00	.004	.001
	8:40	.03	.002
	10:00	.03	.005
	10:10	.02	.005
	12:00M	.02	.007
1/2/36	1:00A	.03	.009
	3:00	.03	.013
	6:00	.03	.019
	9:00	.02	.024
	12:00N	.02	.027
	2:00P	.01	.029
	8:00	.01	.033
	10:00	.02	.035
	12:00M	.01	.037
1/3/36	1:00A	.01	.038
	2:00	.004	.038
	3:40	.004	.039
	3:41	.004	.039

Runoff
G. S. No. 8
Jan. 1-3, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/1/36	6:00P	.08	
	7:00	.10	.000
	8:00	.14	.0003
	9:00	.19	.0005
	9:30	.24	.001
	10:00	.36	.001
	10:10	.54	.001
	11:00	.72	.002
	12:00M	.88	.003
1/2/36	12:10A	.88	.003
	12:20	1.06	.003
	1:20	1.08	.004
	2:00	.08	.005
	3:00	.68	.006
	3:30	.97	.007
	4:00	1.16	.008
	5:00	2.82	.010
	6:00	2.52	.013
	6:10	2.78	.014
	7:10	2.78	.018
	8:20	2.66	.022
	9:20	1.60	.025
	10:00	1.47	.026
	12:00N	.72	.029
	3:00P	.49	.031
	4:00	.58	.032
	6:00	.24	.033
	8:00	.19	.034
	12:00M	.19	.034
1/3/36	2:00A	.10	.035
	4:00	.10	.035
	5:00	.06	.035
	9:00	.06	.036
	10:00	.03	.036


ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HOUR
DISCHARGE IN CUBIC FEET PER SECOND
2AM
4
6
8
10
12N
2PM
4
6
8
10
JAN.-2-35
GAGE NO. 2
JAN.-2-35
1.0
.50
.00
.10
.08
.06
.04
.02
.00
2.5
2.0
1.5
1.0
0.5
.00
G.S.5
G.S.2
G.S.6
G.S.3
G. S. 2, 5 and 6 on right-hand scale.
G. S. 3 on left-hand scale.
JAN.-2-36
JAN.-2-36
Pullman, Washington
January 1-5, 1936
Sheet 2 of 3



Cumulative Rainfall
Gage No. 2
Jan. 1-2, 1936

Date	Time	dt	D	dD	I
1/1/36	6:00A		.00		
		30		.01	.02
	6:30		.01		
		140		.01	.00
	8:50		.02		
		10		.01	.06
	9:00		.03		
		100		.02	.01
	10:40		.05		
		15		.00	.00
	10:55		.05		
		41		.01	.01
	11:36		.06		
		64		.03	.03
	12:40P		.09		
		30		.01	.02
	1:10		.10		
		50		.02	.02
	2:00		.12		
		20		.01	.03
	2:20		.13		
		28		.02	.04
	2:48		.15		
		16		.02	.08
	3:04		.17		
		36		.01	.02
	3:40		.18		
		30		.01	.02
	4:10		.19		
		30		.00	.00
	4:40		.19		
		28		.01	.02
	5:08		.20		
		52		.03	.03
	6:00		.23		
		35		.02	.03
	6:35		.25		
		105		.10	.06
	8:20		.35		
		13		.00	.00
	8:33		.35		
		10		.02	.12
	8:43		.37		
		27		.01	.02
	9:10		.38		
		78		.07	.05
	10:28		.45		
		52		.03	.03
	11:20		.48		
		50		.04	.05
1/2/36	12:10A		.52		
		10		.00	.00
	12:20		.52		
		36		.00	.00
	12:56		.52		
		14		.01	.04

Cumulative Rainfall
Gage No. 2
Jan. 1-2, 1936

Date	Time	dt	D	dD	I
1/2/36	1:10A		.53		
		13		.02	.09
	1:23		.55		
		27		.05	.11
	1:50		.60		
		40		.09	.14
	2:30		.69		
		10		.01	.06
	2:40		.70		
		20		.08	.24
	3:00		.78		
		20		.04	.12
	3:20		.82		
		30		.04	.08
	3:50		.86		
		10		.03	.18
	4:00		.89		
		18		.02	.07
	4:18		.91		
		12		.03	.15
	4:30		.94		
		120		.01	.01
	6:30		.95		
		327		.00	.00
	11:57		.95		
		23		.04	.10
	12:20P		.99		

G. S. 2, 5 and 6 on right-hand scale.
G. S. 8 on left-hand scale.

	G.S. No. 2	G. S. No. 5
Area (acres)	88.2	14.4
Preceding Rain (in.)	.41	.41
date began	1/1/36 6:00 a.m.	1/1/36 6:00 a.m.
duration (hours)	30.33	30.33
Temperature (max. & min.)	40-31	40-31
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-25%
maximum	55%	40%
Cover, type	See note	Rough plowed
height (ft.)	" "	
date last cultivated	" "	Sept. 1935
Soil loss (tons per acre)	.001	.000
Remarks		

	G.S. No. 6	G.S. No. 8
Area (acres)	15.2	762
Preceding Rain (in.)	.41	.41
date began	1/1/36 6:00 a.m.	1/1/36 6:00 a.m.
duration (hours)	30.33	30.33
Temperature (max. & min.)	40-31	40-31
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	16-22%	15-30%
maximum	50%	55-60%
Cover, type	1st year Sweet Clover	See note
height (ft.)	.0-.5'	" "
date last cultivated	Peas harvested Aug. 1935	" "
Soil loss (tons per acre)	.007	.008
Remarks		

Note: G.S. No. 2
10.6 acres fall plowing, plowed Sept. 1935.
25.6 " winter wheat. Stubble harvested Aug. 1935.
20.7 " winter wheat, seeded Oct. 1935.
11.3 " alfalfa, sweet clover, grasses, exp. plots and roads.

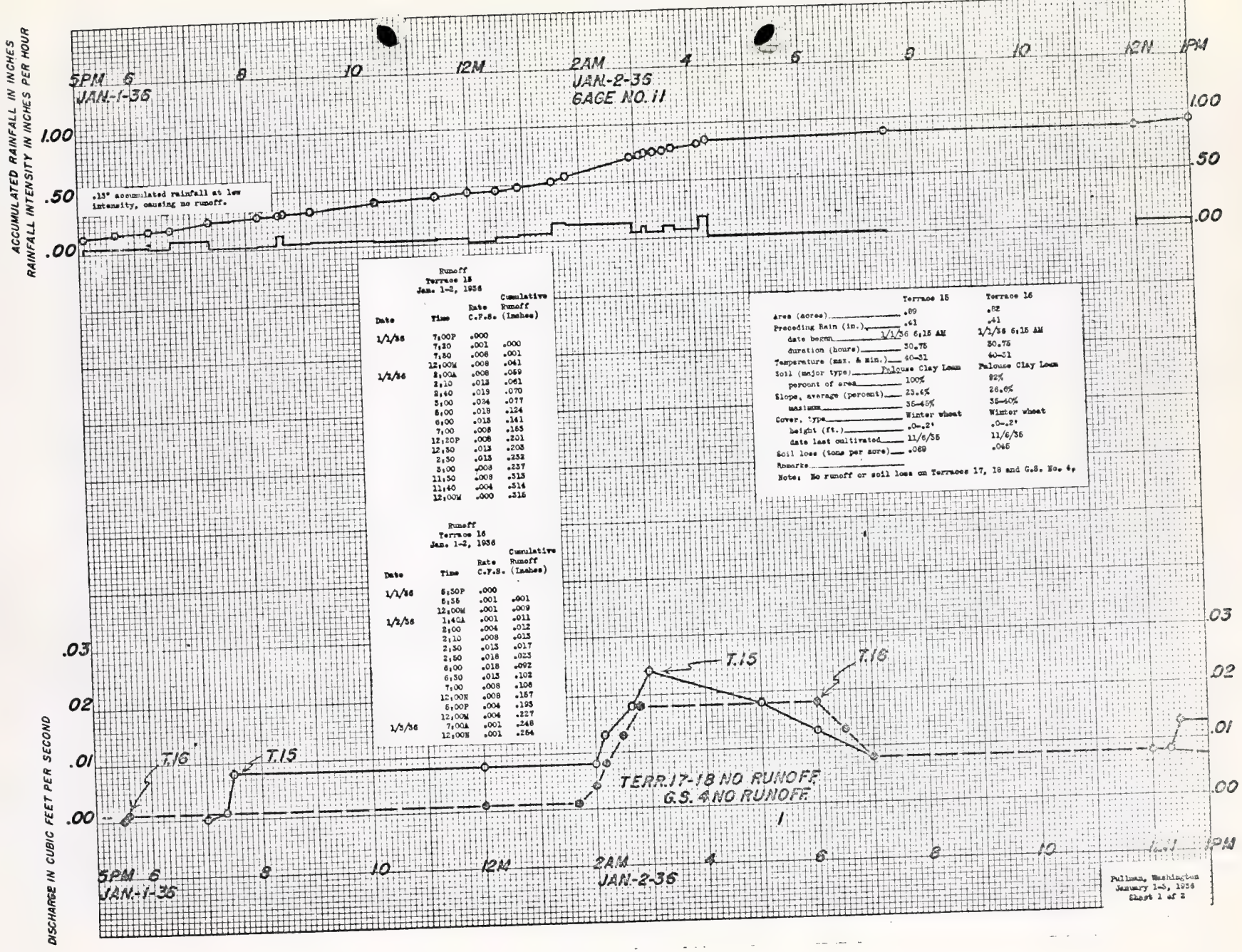
G.S. No. 8
Fall plowing, Sept. 1935.
Winter wheat stubble, harvested Aug. 1935.
Farmsteads.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM NO. 1

Plot by MEG date 12-1-39 checked by LMN date 12-1-39
Computations by MEG date 11-30-39 checked by JMY date 11-30-39

Pullman, Washington
January 1-3, 1936
Sheet 3 of 3



Runoff
Terrace 15
Jan. 1-2, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/1/36	7:00P	.000	
	7:20	.001	.000
	7:50	.006	.001
	12:00M	.008	.041
1/2/36	2:00A	.008	.059
	2:10	.012	.061
	2:40	.019	.070
	3:00	.024	.077
	5:00	.018	.124
	6:00	.013	.141
	7:00	.008	.155
	12:20P	.008	.201
	12:50	.013	.203
	2:50	.013	.232
	3:00	.008	.237
	11:50	.008	.313
	11:40	.004	.314
	12:00M	.000	.316

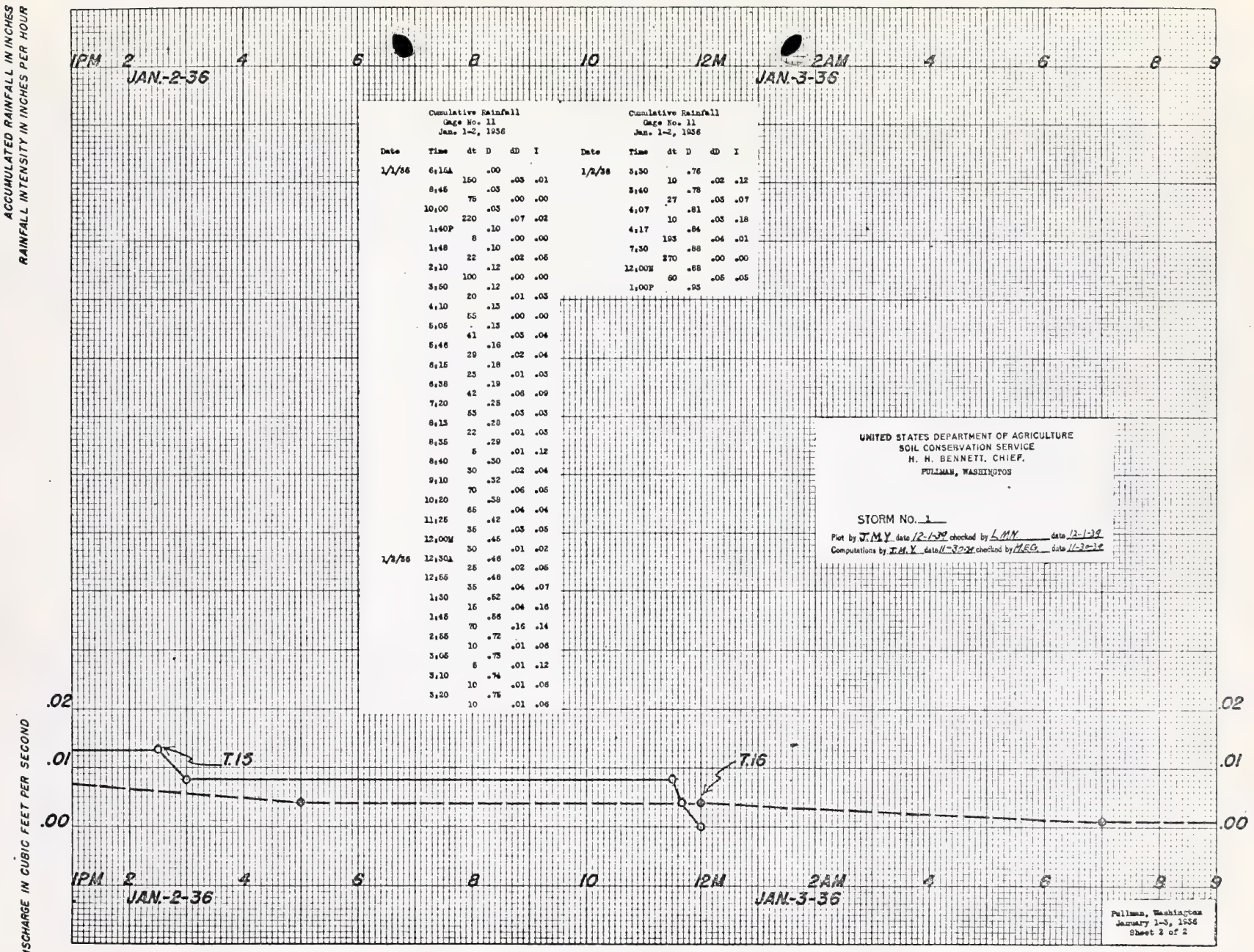
Runoff
Terrace 16
Jan. 1-2, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/1/36	5:50P	.000	
	5:56	.001	.001
	12:00M	.001	.009
1/2/36	1:40A	.001	.011
	2:00	.004	.012
	2:10	.008	.013
	2:30	.013	.017
	2:50	.016	.023
	5:00	.018	.092
	6:30	.013	.102
	7:00	.008	.108
	12:00N	.008	.157
	5:00P	.004	.193
	12:00M	.004	.227
1/3/36	7:00A	.001	.248
	12:00N	.001	.254

	Terrace 15	Terrace 16
Area (acres)	.89	.82
Preceding Rain (in.)	.41	.41
date begun	1/1/36 6:15 AM	1/1/36 6:15 AM
duration (hours)	30.75	30.75
Temperature (max. & min.)	40-31	40-31
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam
percent of area	100%	92%
Slope, average (percent)	23.4%	26.6%
maximum	35-45%	35-40%
Cover, type	Winter wheat	Winter wheat
height (ft.)	.0-.2'	.0-.2'
date last cultivated	11/6/35	11/6/35
Soil loss (tons per acre)	.069	.046
Remarks		

Note: No runoff or soil loss on Terraces 17, 18 and G.S. No. 4.

Pullman, Washington
January 1-3, 1936
Sheet 1 of 2



Cumulative Rainfall
Gage No. 11
Jan. 1-2, 1936

Date	Time	dt	D	dD	I
1/1/36	6:16A		.00		
		150		.03	.01
	8:46		.03		
		75		.00	.00
	10:00		.03		
		220		.07	.02
	1:40P		.10		
		8		.00	.00
	1:48		.10		
		22		.02	.05
	2:10		.12		
		100		.00	.00
	3:50		.12		
		20		.01	.03
	4:10		.13		
		55		.00	.00
	5:05		.13		
		41		.03	.04
	5:46		.16		
		29		.02	.04
	6:15		.18		
		23		.01	.03
	6:38		.19		
		42		.06	.09
	7:20		.25		
		53		.03	.03
	8:13		.28		
		22		.01	.03
	8:35		.29		
		5		.01	.12
	8:40		.30		
		30		.02	.04
	9:10		.32		
		70		.06	.05
	10:20		.38		
		65		.04	.04
	11:25		.42		
		35		.03	.05
	12:00M		.45		
		30		.01	.02
1/2/36	12:30A		.46		
		25		.02	.06
	12:55		.48		
		35		.04	.07
	1:30		.52		
		15		.04	.16
	1:45		.56		
		70		.16	.14
	2:55		.72		
		10		.01	.06
	3:05		.73		
		5		.01	.12
	3:10		.74		
		10		.01	.06
	3:20		.75		
		10		.01	.06

Cumulative Rainfall
Gage No. 11
Jan. 1-2, 1936

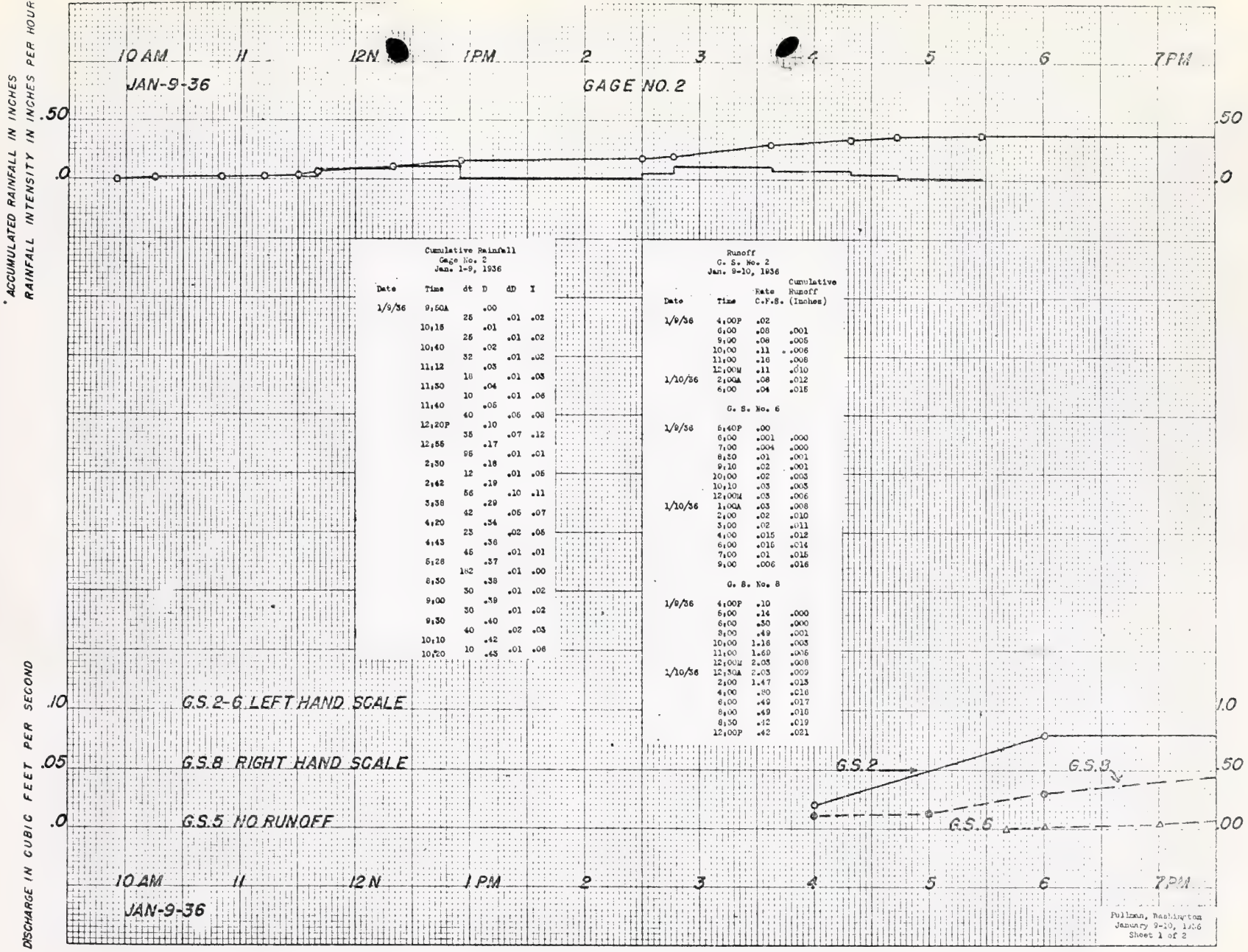
Date	Time	dt	D	dD	I
1/2/36	3:30		.76		
		10		.02	.12
	3:40		.78		
		27		.03	.07
	4:07		.81		
		10		.03	.18
	4:17		.84		
		193		.04	.01
	7:30		.88		
		270		.00	.00
	12:00N		.88		
		60		.05	.05
	1:00P		.93		

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 1

Plot by J.M.Y. date 12-1-39 checked by L.M.N. date 12-1-39
Computations by J.M.Y. date 11-30-39 checked by M.E.G. date 11-30-39

Pullman, Washington
January 1-3, 1936
Sheet 2 of 2

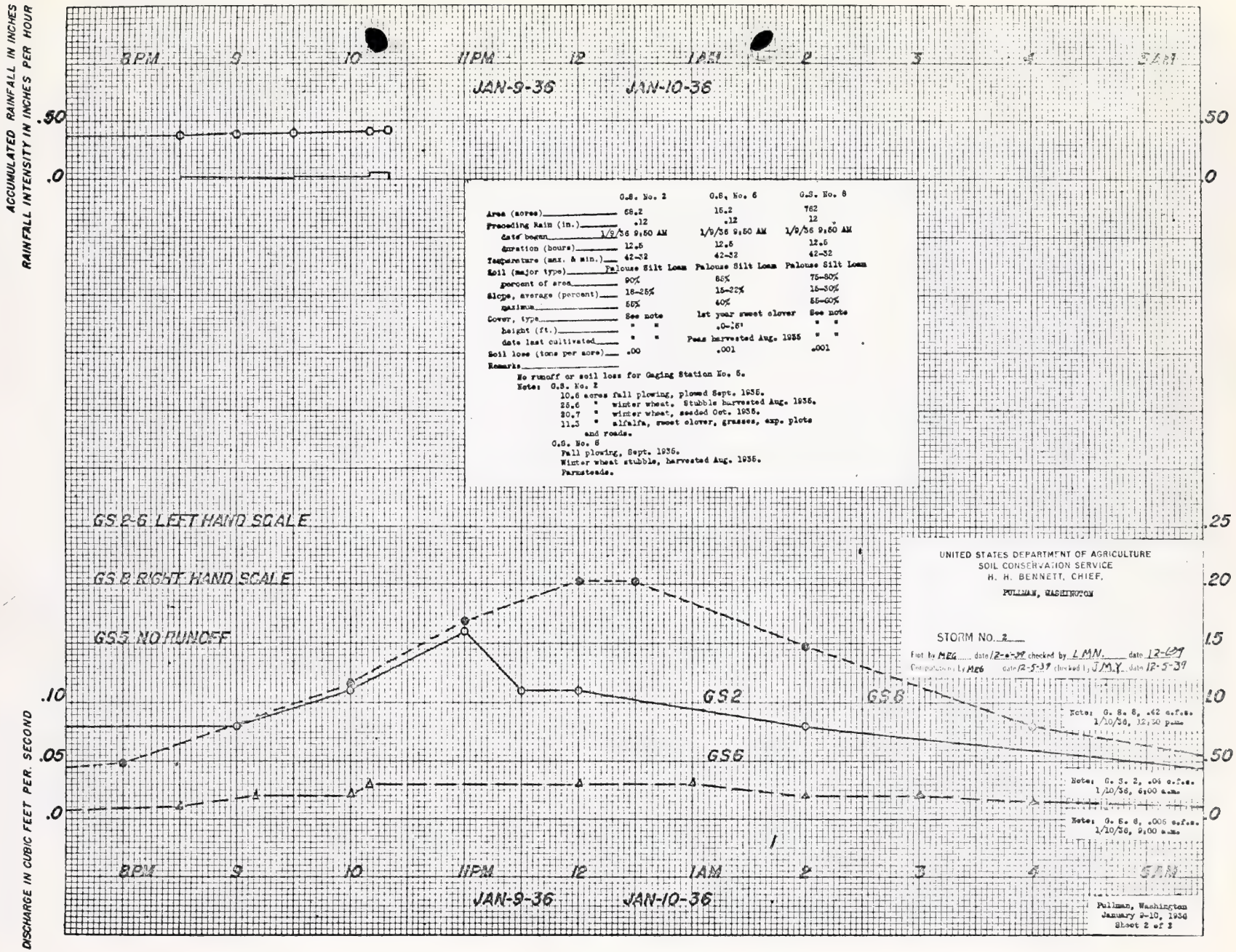


Cumulative Rainfall
Gage No. 2
Jan. 1-9, 1936

Date	Time	dt	D	dD	I
1/9/36	9:50A		.00		
		25		.01	.02
	10:15		.01		
		25		.01	.02
	10:40		.02		
		32		.01	.02
	11:12		.03		
		18		.01	.03
	11:30		.04		
		10		.01	.06
	11:40		.05		
		40		.06	.08
	12:20P		.10		
		35		.07	.12
	12:55		.17		
		95		.01	.01
	2:30		.18		
		12		.01	.05
	2:42		.19		
		56		.10	.11
	3:38		.29		
		42		.05	.07
	4:20		.34		
		23		.02	.05
	4:43		.36		
		45		.01	.01
	5:28		.37		
		182		.01	.00
	8:30		.38		
		30		.01	.02
	9:00		.39		
		30		.01	.02
	9:30		.40		
		40		.02	.03
	10:10		.42		
	10:20	10	.43	.01	.06

Runoff
G. S. No. 2
Jan. 9-10, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/9/36	4:00P	.02	
	6:00	.08	.001
	9:00	.08	.005
	10:00	.11	.006
	11:00	.16	.008
	12:00M	.11	.010
1/10/36	2:00A	.08	.012
	6:00	.04	.015
G. S. No. 6			
1/9/36	5:40P	.00	
	6:00	.001	.000
	7:00	.004	.000
	8:30	.01	.001
	9:10	.02	.001
	10:00	.02	.003
	10:10	.03	.003
	12:00M	.03	.006
1/10/36	1:00A	.03	.008
	2:00	.02	.010
	3:00	.02	.011
	4:00	.015	.012
	5:00	.016	.014
	7:00	.01	.015
	9:00	.006	.016
G. S. No. 8			
1/9/36	4:00P	.10	
	5:00	.14	.000
	6:00	.30	.000
	8:00	.49	.001
	10:00	1.16	.003
	11:00	1.69	.006
	12:00M	2.03	.008
1/10/36	12:30A	2.03	.009
	2:00	1.47	.013
	4:00	.80	.016
	6:00	.49	.017
	8:00	.49	.018
	8:30	.42	.019
	12:00P	.42	.021



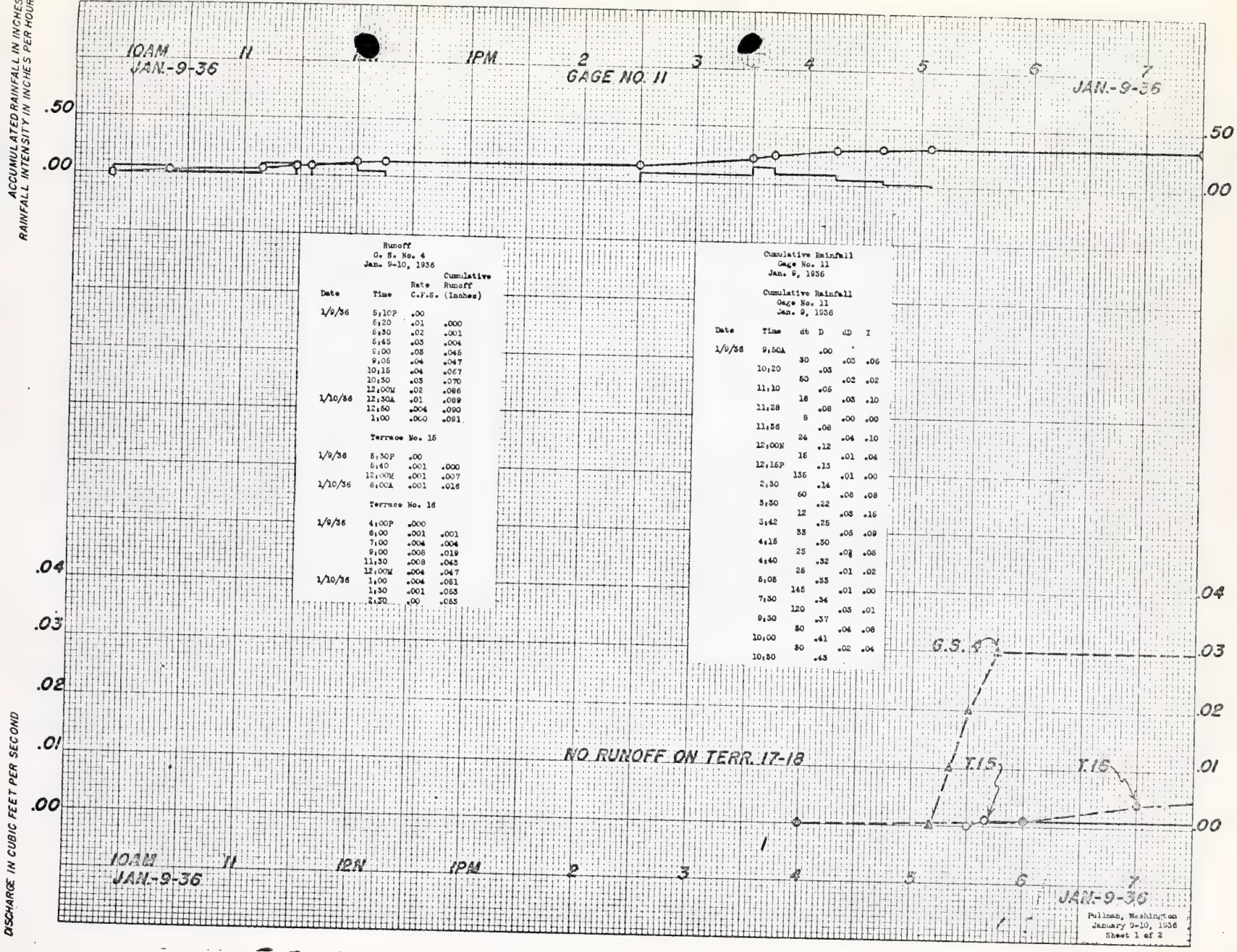
	G.S. No. 2	G.S. No. 6	G.S. No. 8
Area (acres)	68.2	15.2	762
Preceding Rain (in.)	.12	.12	12
date began	1/9/36 9:50 AM	1/9/36 9:50 AM	1/9/36 9:50 AM
duration (hours)	12.5	12.5	12.5
Temperature (max. & min.)	42-32	42-32	42-32
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%	75-80%
Slope, average (percent)	18-25%	15-22%	15-30%
maximum	50%	40%	55-60%
Cover, type	See note	1st year sweet clover	See note
height (ft.)	" "	.0-.25'	" "
date last cultivated	" "	Peas harvested Aug. 1935	" "
Soil loss (tons per acre)	.00	.001	.001

Remarks

No runoff or soil loss for Gaging Station No. 5.

Note: G.S. No. 2
10.6 acres fall plowing, plowed Sept. 1935.
25.6 " winter wheat. Stubble harvested Aug. 1935.
20.7 " winter wheat, seeded Oct. 1935.
11.3 " alfalfa, sweet clover, grasses, exp. plots and roads.

G.S. No. 6
Fall plowing, Sept. 1935.
Winter wheat stubble, harvested Aug. 1935.
Farmsteads.



Runoff
G. S. No. 4
Jan. 9-10, 1936

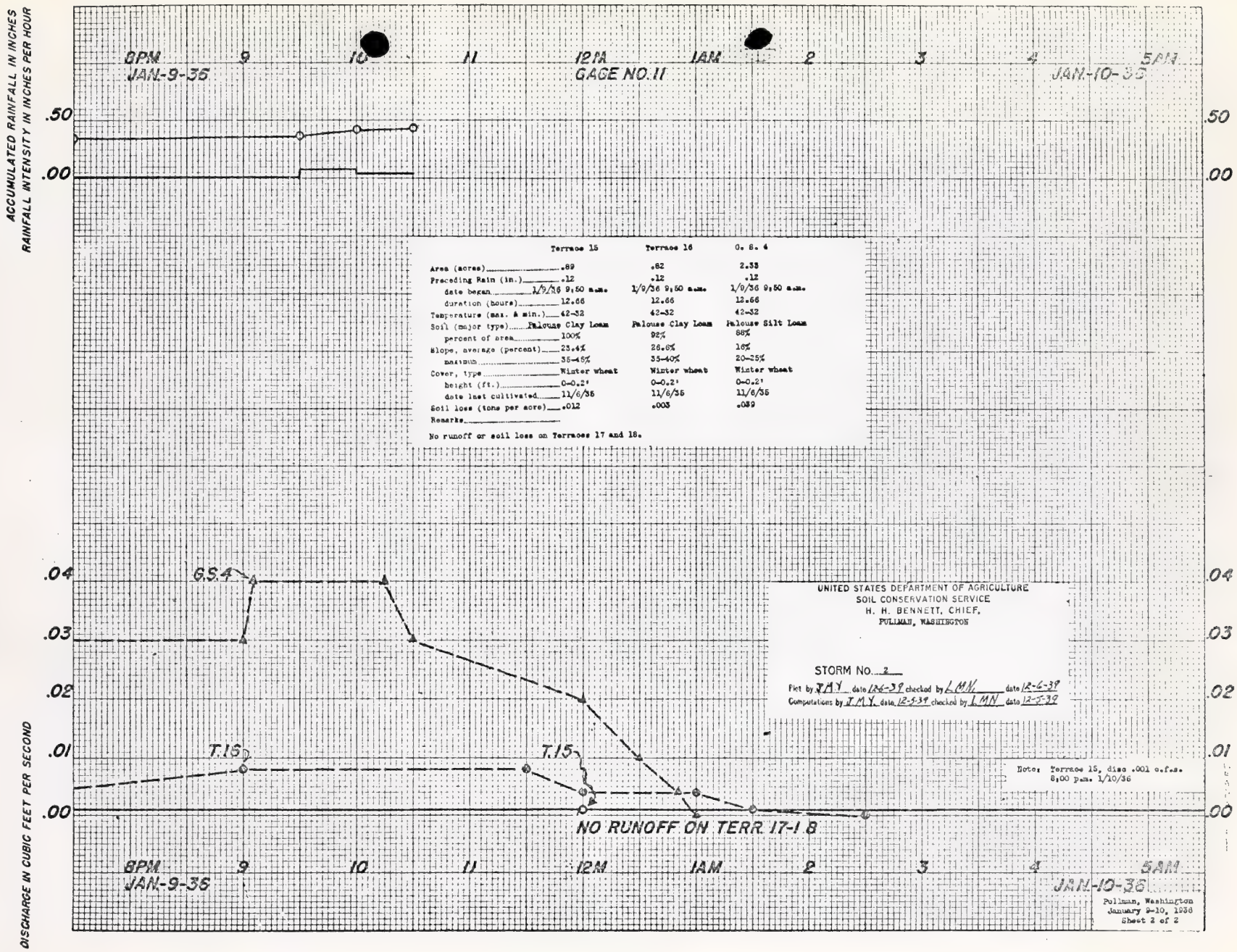
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/9/36	5:10P	.00	
	5:20	.01	.000
	5:30	.02	.001
	5:45	.03	.004
	9:00	.03	.045
	9:05	.04	.047
	10:15	.04	.067
	10:30	.03	.070
	12:00M	.02	.086
1/10/36	12:30A	.01	.089
	12:50	.004	.090
	1:00	.000	.091
Terrace No. 15			
1/9/36	5:30P	.00	
	6:40	.001	.000
	12:00M	.001	.007
1/10/36	6:00A	.001	.026
Terrace No. 16			
1/9/36	4:00P	.000	
	6:00	.001	.001
	7:00	.004	.004
	9:00	.008	.019
	11:30	.008	.043
	12:00M	.004	.047
1/10/36	1:00	.004	.051
	1:30	.001	.053
	2:30	.00	.053

Cumulative Rainfall
Gage No. 11
Jan. 9, 1936

Cumulative Rainfall
Gage No. 11
Jan. 9, 1936

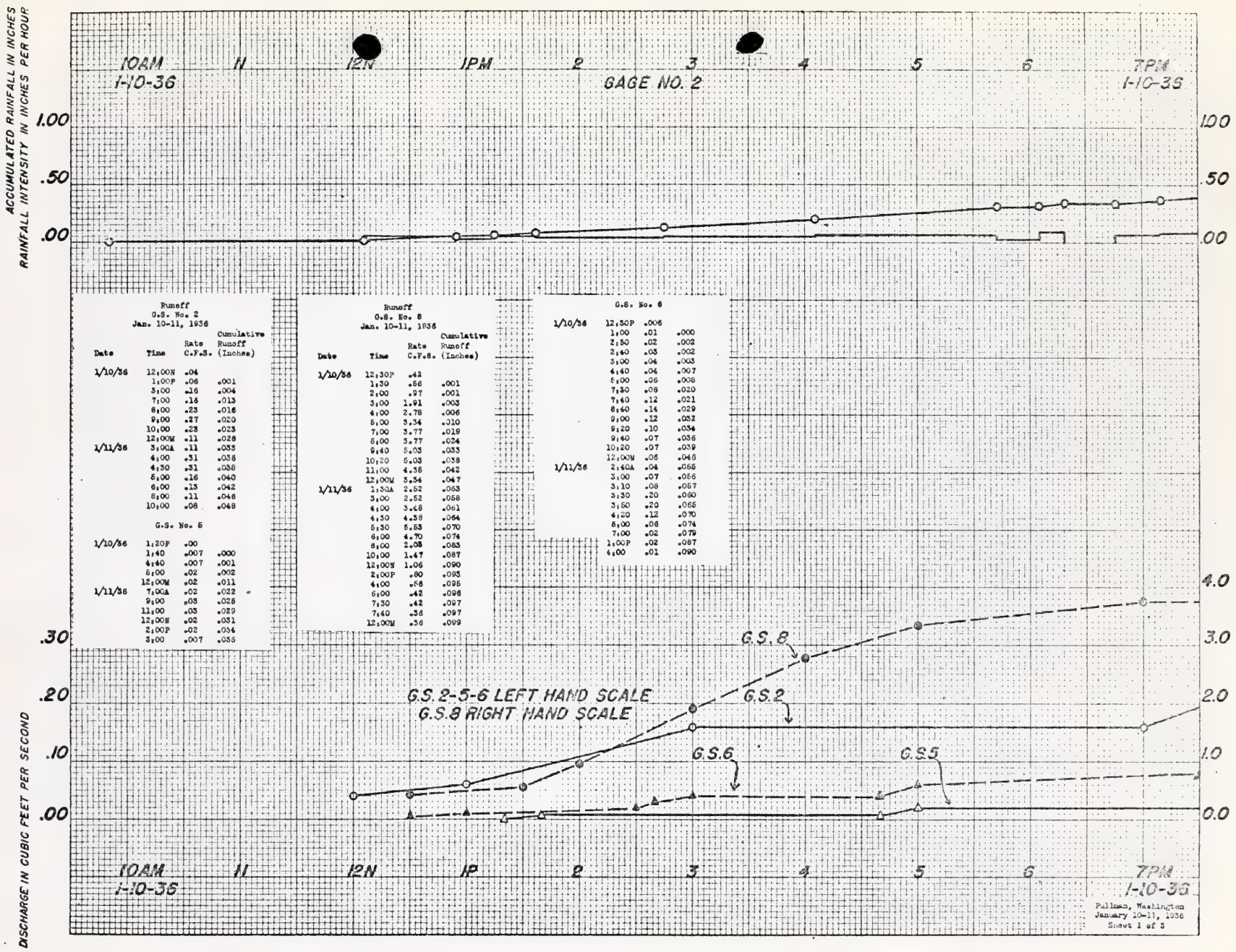
Date	Time	dt	D	dD	I
1/9/36	9:50A		.00		
		30		.03	.06
	10:20		.03		
		50		.02	.02
	11:10		.05		
		18		.03	.10
	11:28		.08		
		8		.00	.00
	11:36		.08		
		24		.04	.10
	12:00N		.12		
		15		.01	.04
	12:15P		.13		
		135		.01	.00
	2:30		.14		
		60		.08	.08
	3:30		.22		
		12		.03	.16
	3:42		.25		
		33		.05	.09
	4:15		.30		
		25		.02	.05
	4:40		.32		
		26		.01	.02
	5:05		.33		
		145		.01	.00
	7:30		.34		
		120		.03	.01
	9:30		.37		
		30		.04	.08
	10:00		.41		
		30		.02	.04
	10:30		.43		

Pullman, Washington
January 9-10, 1936
Sheet 1 of 2



	Terrace 15	Terrace 16	G. S. 4
Area (acres)	.89	.82	2.33
Preceding Rain (in.)	.12	.12	.12
date began	1/9/36 9:50 a.m.	1/9/36 9:50 a.m.	1/9/36 9:50 a.m.
duration (hours)	12.66	12.66	12.66
Temperature (max. & min.)	42-32	42-32	42-32
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam	Palouse Silt Loam
percent of area	100%	92%	88%
Slope, average (percent)	23.4%	26.6%	16%
maximum	35-45%	35-40%	20-25%
Cover, type	Winter wheat	Winter wheat	Winter wheat
height (ft.)	0-0.2'	0-0.2'	0-0.2'
date last cultivated	11/6/35	11/6/35	11/6/35
Soil loss (tons per acre)	.012	.003	.039
Remarks			

No runoff or soil loss on Terraces 17 and 18.



Runoff
G.S. No. 2
Jan. 10-11, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/10/36	12:00N	.04	
	1:00P	.06	.001
	3:00	.16	.004
	7:00	.16	.013
	8:00	.23	.016
	9:00	.27	.020
	10:00	.23	.023
	12:00M	.11	.028
1/11/36	3:00A	.11	.033
	4:00	.31	.038
	4:30	.31	.038
	5:00	.16	.040
	6:00	.13	.042
	8:00	.11	.046
	10:00	.08	.048

G.S. No. 5

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/10/36	1:20P	.00	
	1:40	.007	.000
	4:40	.007	.001
	5:00	.02	.002
	12:00M	.02	.011
1/11/36	7:00A	.02	.022
	9:00	.03	.025
	11:00	.03	.029
	12:00N	.02	.031
	2:00P	.02	.034
	3:00	.007	.035

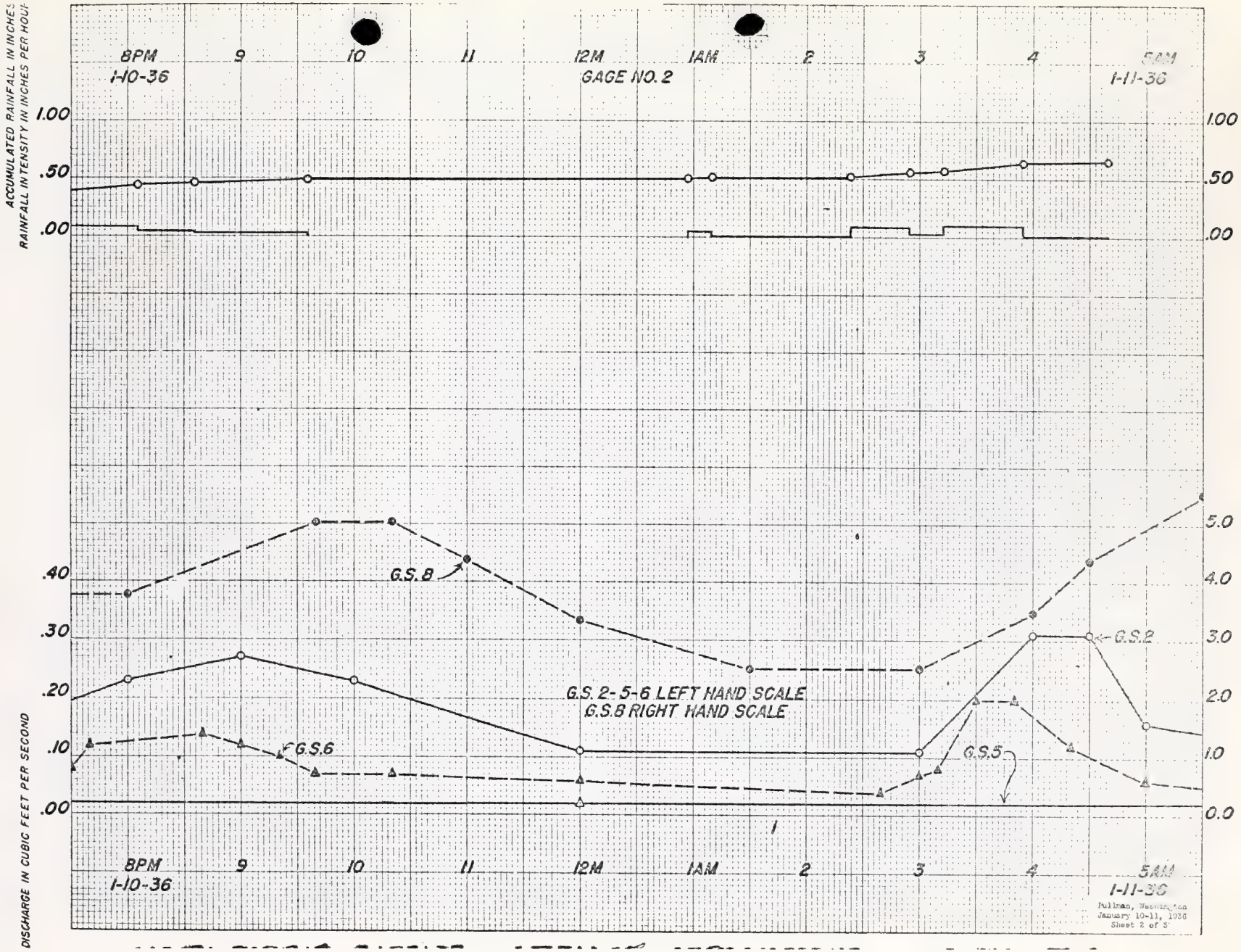
Runoff
G.S. No. 8
Jan. 10-11, 1936

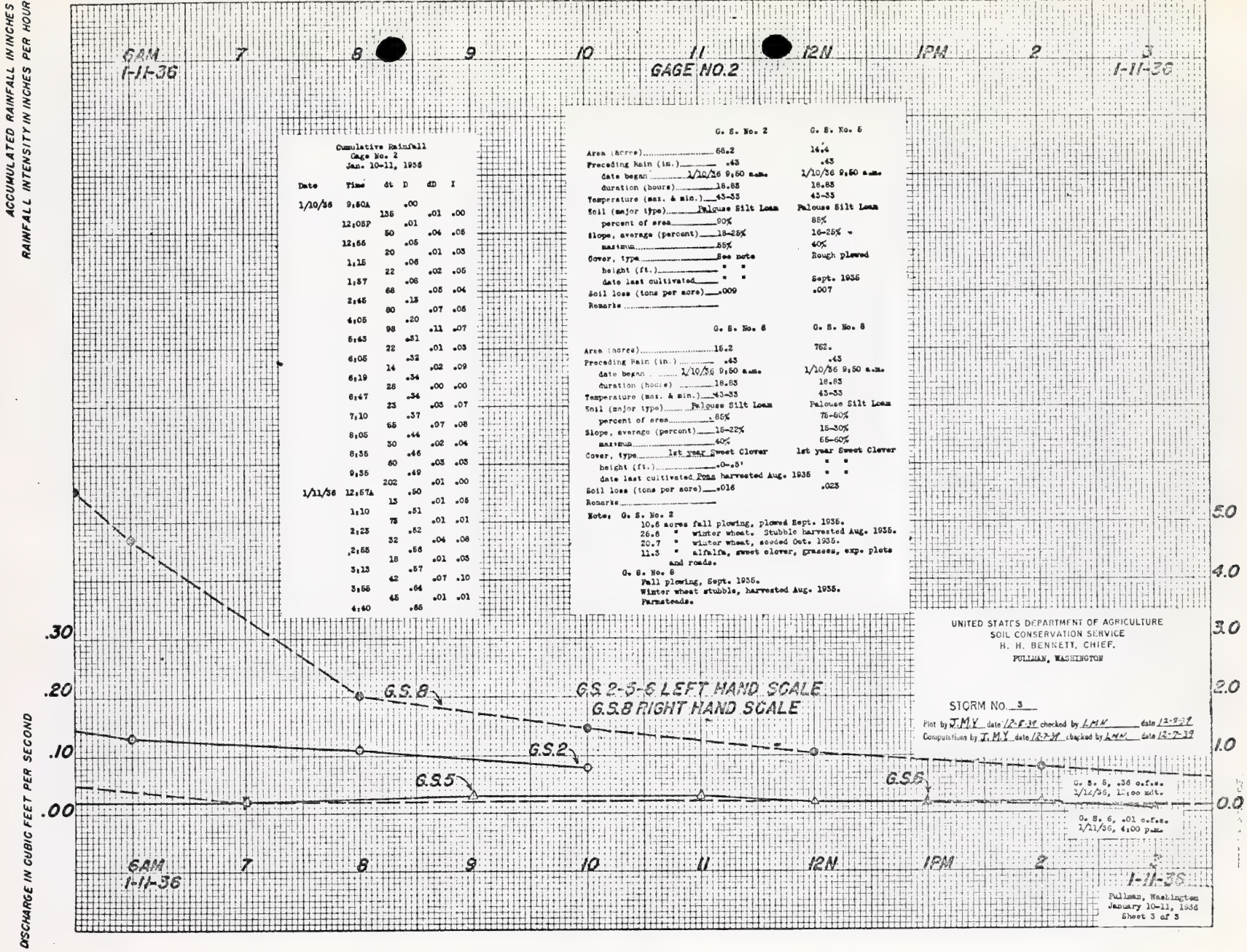
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/10/36	12:30P	.42	
	1:30	.56	.001
	2:00	.97	.001
	3:00	1.91	.003
	4:00	2.78	.006
	5:00	3.34	.010
	7:00	3.77	.019
	8:00	3.77	.024
	9:40	5.03	.033
	10:20	5.03	.038
	11:00	4.38	.042
	12:00M	3.54	.047
1/11/36	1:30A	2.52	.053
	3:00	2.52	.058
	4:00	3.48	.061
	4:30	4.38	.064
	5:30	5.53	.070
	6:00	4.70	.074
	8:00	2.08	.083
	10:00	1.47	.087
	12:00N	1.06	.090
	2:00P	.80	.093
	4:00	.56	.095
	6:00	.42	.096
	7:30	.42	.097
	7:40	.36	.097
	12:00M	.36	.099

G.S. No. 6

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/10/36	12:30P	.006	
	1:00	.01	.000
	2:50	.02	.002
	2:40	.03	.002
	3:00	.04	.003
	4:40	.04	.007
	5:00	.06	.008
	7:30	.08	.020
	7:40	.12	.021
	8:40	.14	.029
	9:00	.12	.032
	9:20	.10	.034
	9:40	.07	.036
	10:20	.07	.039
	12:00M	.06	.046
1/11/36	2:40A	.04	.055
	3:00	.07	.056
	3:10	.08	.057
	3:30	.20	.060
	3:50	.20	.065
	4:20	.12	.070
	5:00	.08	.074
	7:00	.02	.079
	1:00P	.02	.087
	4:00	.01	.090

Pullman, Washington
January 10-11, 1936
Sheet 1 of 3


ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HOUR
DISCHARGE IN CUBIC FEET PER SECOND
8PM 1-10-36
9
10
11
12M
GAGE NO. 2
1AM
2
3
4
5AM 1-11-36
1.00
.50
.00
.40
.30
.20
.10
.00
5.0
4.0
3.0
2.0
1.0
0.0
G.S.8
G.S.2
G.S.2-5-6 LEFT HAND SCALE
G.S.8 RIGHT HAND SCALE
G.S.6
G.S.5
Pullman, Washington
January 10-11, 1936
Sheet 2 of 3



Cumulative Rainfall
Gage No. 2
Jan. 10-11, 1936

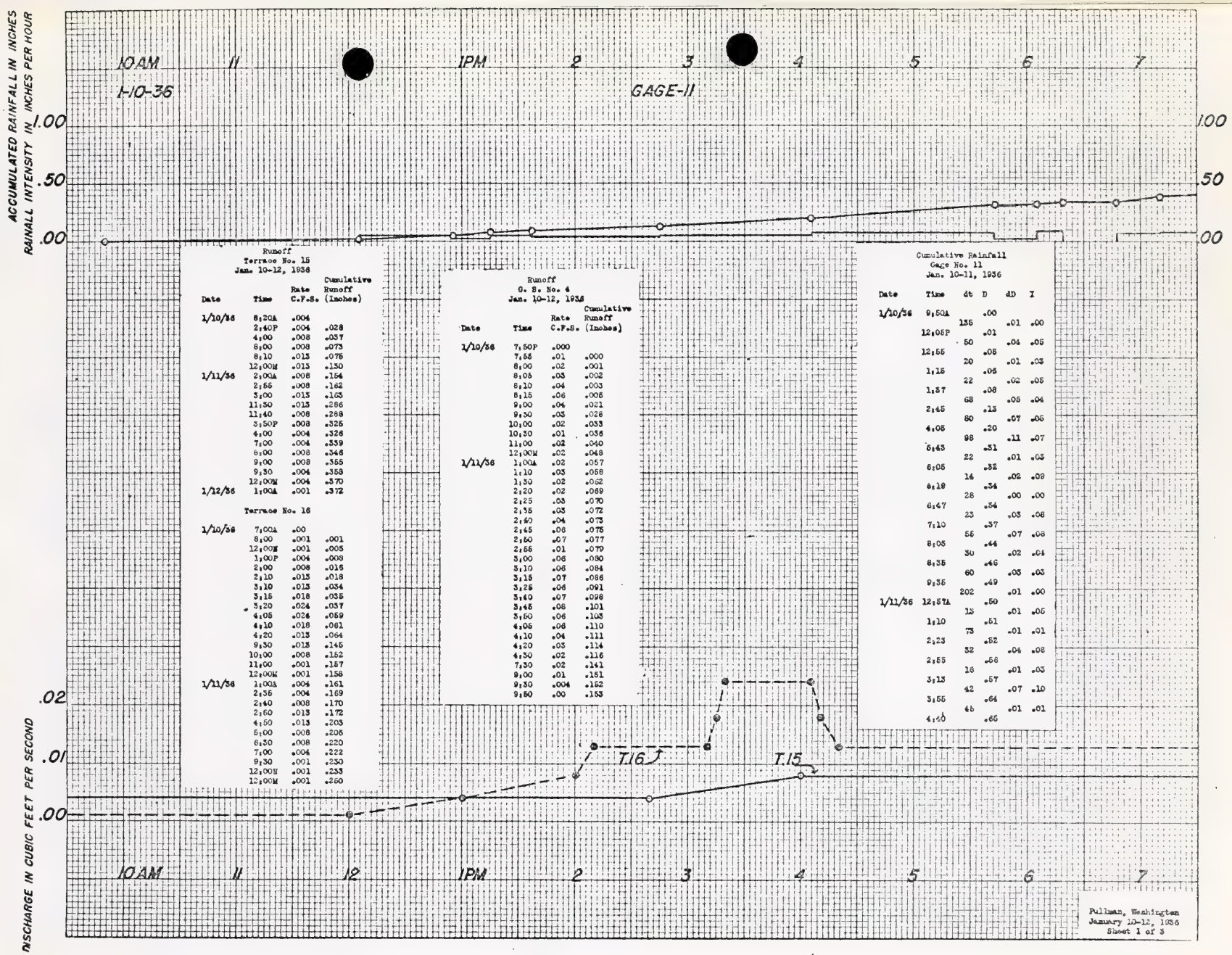
Date	Time	dt	D	dD	I
1/10/36	9:50A		.00		
	12:05P	135	.01	.01	.00
	12:55	50	.05	.04	.05
	1:15	20	.06	.01	.03
	1:37	22	.08	.02	.05
	2:45	68	.13	.05	.04
	4:05	80	.20	.07	.05
	5:43	98	.31	.11	.07
	6:05	22	.32	.01	.03
	6:19	14	.34	.02	.09
	6:47	28	.34	.00	.00
	7:10	23	.37	.03	.07
	8:05	55	.44	.07	.08
	8:35	30	.46	.02	.04
	9:35	60	.49	.03	.03
1/11/36	12:57A	202	.50	.01	.00
	1:10	13	.51	.01	.05
	2:23	73	.52	.01	.01
	2:55	32	.56	.04	.08
	3:13	18	.57	.01	.05
	3:55	42	.64	.07	.10
	4:40	45	.65	.01	.01

	G. S. No. 2	G. S. No. 5
Area (acres)	66.2	14.4
Preceding Rain (in.)	.43	.43
date began	1/10/36 9:50 a.m.	1/10/36 9:50 a.m.
duration (hours)	18.83	18.83
Temperature (max. & min.)	43-33	43-33
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-25%
maximum	55%	40%
Cover, type	See note	Rough plowed
height (ft.)	" "	
date last cultivated	" "	Sept. 1935
Soil loss (tons per acre)	.009	.007
Remarks		

	G. S. No. 6	G. S. No. 8
Area (acres)	16.2	762.
Preceding Rain (in.)	.43	.43
date began	1/10/36 9:50 a.m.	1/10/36 9:50 a.m.
duration (hours)	18.83	18.83
Temperature (max. & min.)	43-33	43-33
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	18-22%	15-30%
maximum	40%	55-60%
Cover, type	1st year Sweet Clover	1st year Sweet Clover
height (ft.)	.0-.5'	" "
date last cultivated	Peas harvested Aug. 1935	" "
Soil loss (tons per acre)	.016	.023
Remarks		

Note: G. S. No. 2
10.6 acres fall plowing, plowed Sept. 1935.
26.6 " winter wheat. Stubble harvested Aug. 1935.
20.7 " winter wheat, seeded Oct. 1935.
11.3 " alfalfa, sweet clover, grasses, exp. plots and roads.

G. S. No. 8
Fall plowing, Sept. 1935.
Winter wheat stubble, harvested Aug. 1935.
Farmsteads.



Runoff
Terrace No. 15
Jan. 10-12, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/10/36	8:20A	.004	
	2:40P	.004	.028
	4:00	.008	.037
	8:00	.008	.073
	8:10	.013	.075
	12:00M	.013	.130
1/11/36	2:00A	.008	.154
	2:55	.008	.162
	3:00	.013	.163
	11:30	.013	.286
	11:40	.008	.288
	3:50P	.008	.325
	4:00	.004	.326
	7:00	.004	.339
	8:00	.008	.346
	9:00	.008	.355
	9:30	.004	.358
	12:00M	.004	.370
1/12/36	1:00A	.001	.372

Terrace No. 16

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/10/36	7:00A	.00	
	8:00	.001	.001
	12:00M	.001	.005
	1:00P	.004	.008
	2:00	.008	.015
	2:10	.013	.018
	3:10	.013	.034
	3:15	.018	.035
	3:20	.024	.037
	4:05	.024	.059
	4:10	.018	.061
	4:20	.013	.064
	9:30	.013	.145
	10:00	.008	.152
	11:00	.001	.157
	12:00M	.001	.158
1/11/36	1:00A	.004	.161
	2:55	.004	.169
	2:40	.008	.170
	2:60	.013	.172
	4:50	.013	.203
	5:00	.008	.206
	6:30	.008	.220
	7:00	.004	.222
	9:30	.001	.230
	12:00M	.001	.233
	12:00M	.001	.260

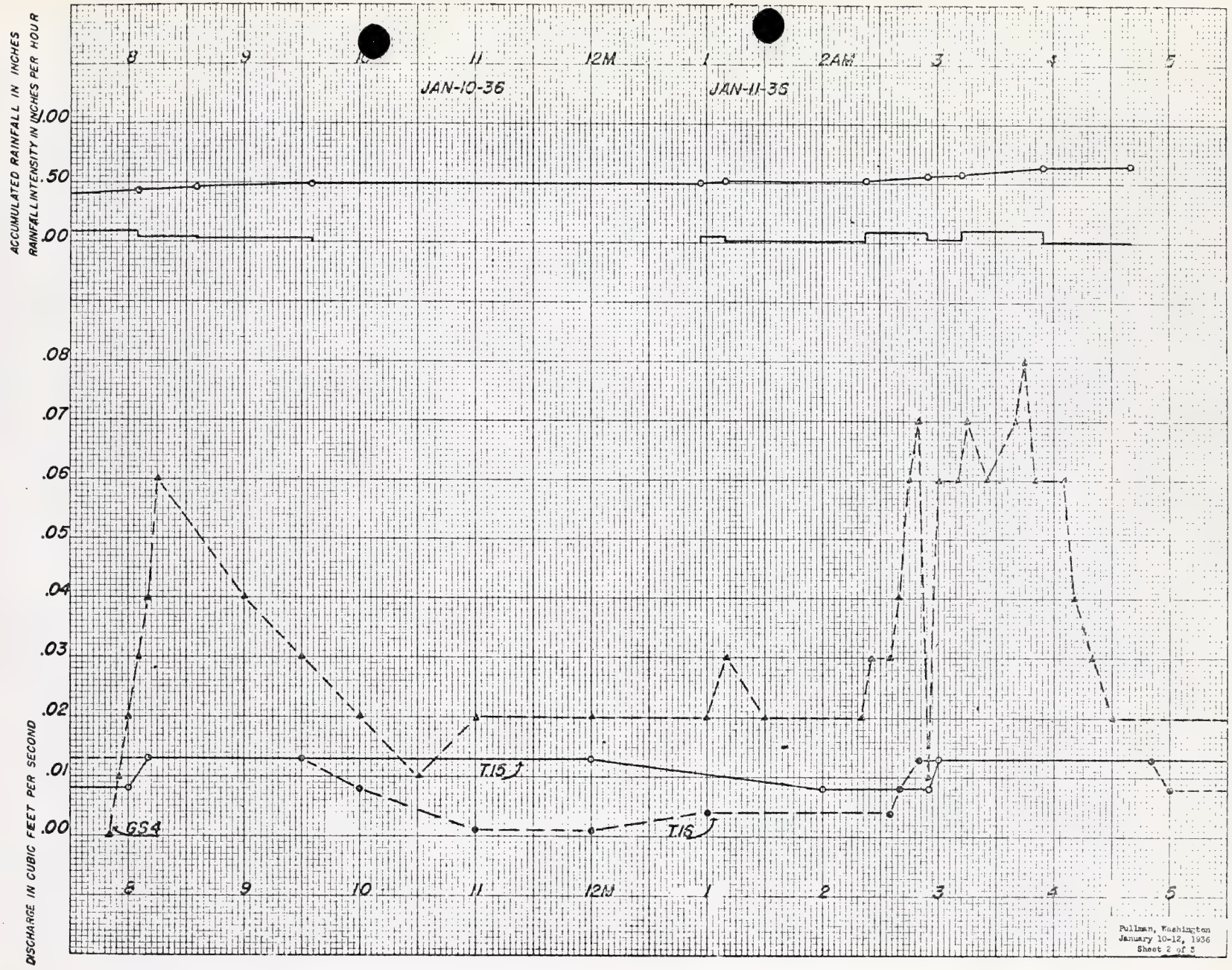
Runoff
G. S. No. 4
Jan. 10-12, 1936

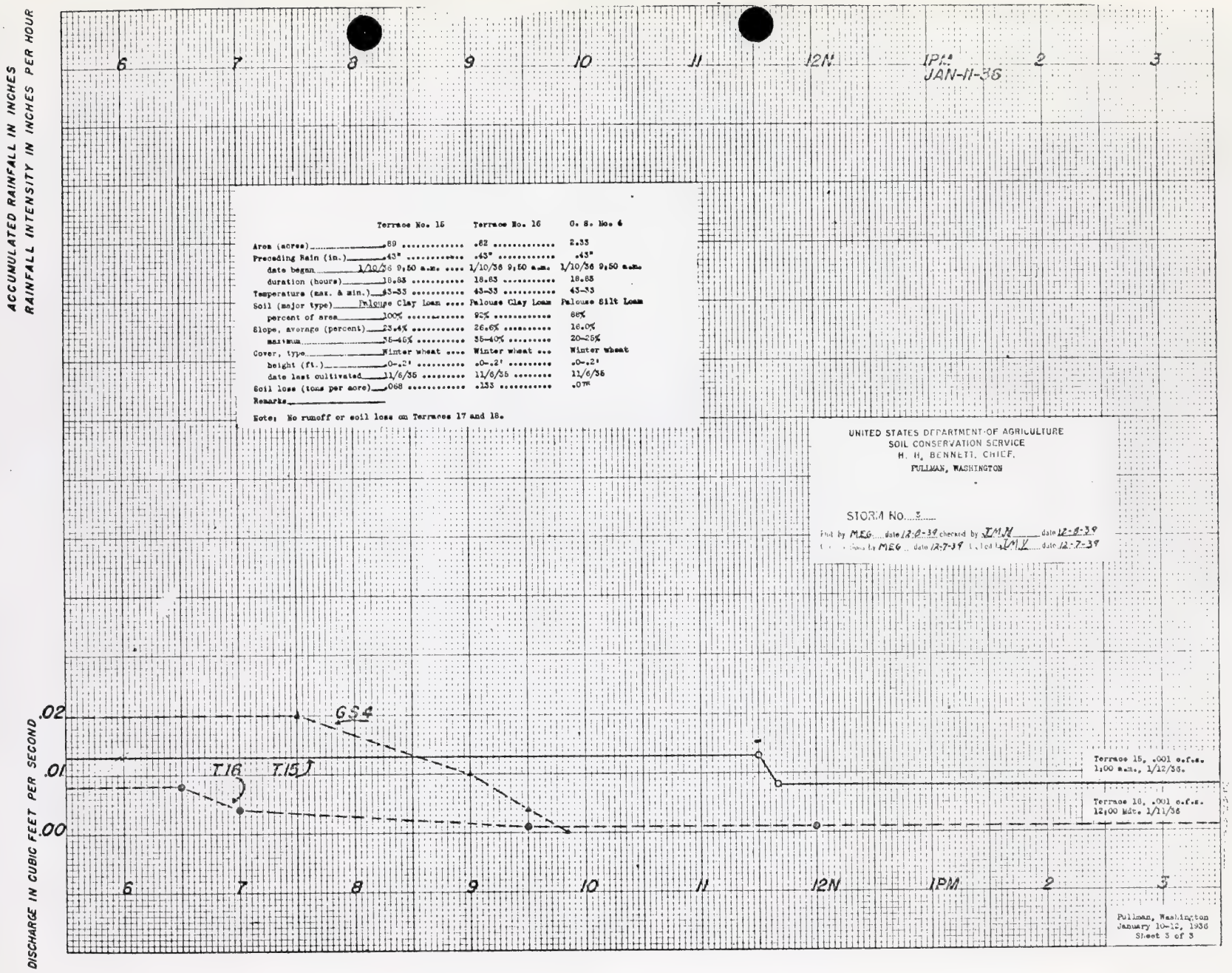
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/10/36	7:50P	.000	
	7:55	.01	.000
	8:00	.02	.001
	8:05	.03	.002
	8:10	.04	.003
	8:15	.06	.005
	9:00	.04	.021
	9:30	.03	.026
	10:00	.02	.033
	10:30	.01	.036
	11:00	.02	.040
	12:00M	.02	.048
1/11/36	1:00A	.02	.057
	1:10	.03	.058
	1:30	.02	.062
	2:20	.02	.069
	2:25	.03	.070
	2:35	.03	.072
	2:40	.04	.073
	2:45	.06	.075
	2:50	.07	.077
	2:55	.01	.079
	3:00	.06	.080
	3:10	.06	.084
	3:15	.07	.086
	3:25	.06	.091
	3:40	.07	.096
	3:45	.08	.101
	3:50	.06	.103
	4:05	.06	.110
	4:10	.04	.111
	4:20	.03	.114
	4:30	.02	.116
	7:30	.02	.141
	9:00	.01	.151
	9:30	.004	.152
	9:50	.00	.153

Cumulative Rainfall
Gage No. 11
Jan. 10-11, 1936

Date	Time	dt	D	dD	I
1/10/36	9:50A		.00		
		135		.01	.00
	12:05P		.01		
		50		.04	.05
	12:55		.05		
		20		.01	.03
	1:15		.06		
		22		.02	.05
	1:37		.08		
		68		.05	.04
	2:45		.13		
		80		.07	.05
	4:05		.20		
		98		.11	.07
	5:43		.31		
		22		.01	.03
	6:05		.32		
		14		.02	.08
	6:19		.34		
		28		.00	.00
	6:47		.34		
		23		.03	.08
	7:10		.37		
		55		.07	.08
	8:05		.44		
		30		.02	.04
	8:35		.46		
		60		.03	.03
	9:35		.49		
		202		.01	.00
1/11/36	12:57A		.50		
		13		.01	.05
	1:10		.51		
		73		.01	.01
	2:23		.52		
		32		.04	.08
	2:55		.56		
		16		.01	.03
	3:13		.57		
		42		.07	.10
	3:55		.64		
		45		.01	.01
	4:40		.65		

Pullman, Washington
January 10-12, 1936
Sheet 1 of 3


ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HOUR
DISCHARGE IN CUBIC FEET PER SECOND
8
9
10
11
12M
1
2AM
3
4
5
JAN-10-36
JAN-11-36
1.00
.50
.00
.08
.07
.06
.05
.04
.03
.02
.01
.00
T.15
T.16
GS4
8
9
10
11
12N
1
2
3
4
5
Pullman, Washington
January 10-12, 1936
Sheet 2 of 3



	Terrace No. 15	Terrace No. 16	G. S. No. 4
Area (acres)	.89	.82	2.33
Preceding Rain (in.)	.43"	.43"	.43"
date began	1/10/36 9:50 a.m.	1/10/36 9:50 a.m.	1/10/36 9:50 a.m.
duration (hours)	18.83	18.83	18.83
Temperature (max. & min.)	43-33	43-33	43-33
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam	Palouse Silt Loam
percent of area	100%	92%	88%
Slope, average (percent)	23.4%	26.6%	16.0%
maximum	35-40%	35-40%	20-25%
Cover, type	Winter wheat	Winter wheat	Winter wheat
height (ft.)	0-.2'	.0-.2'	.0-.2'
date last cultivated	11/6/35	11/6/35	11/6/35
Soil loss (tons per acre)	.068	.133	.07[illegible]

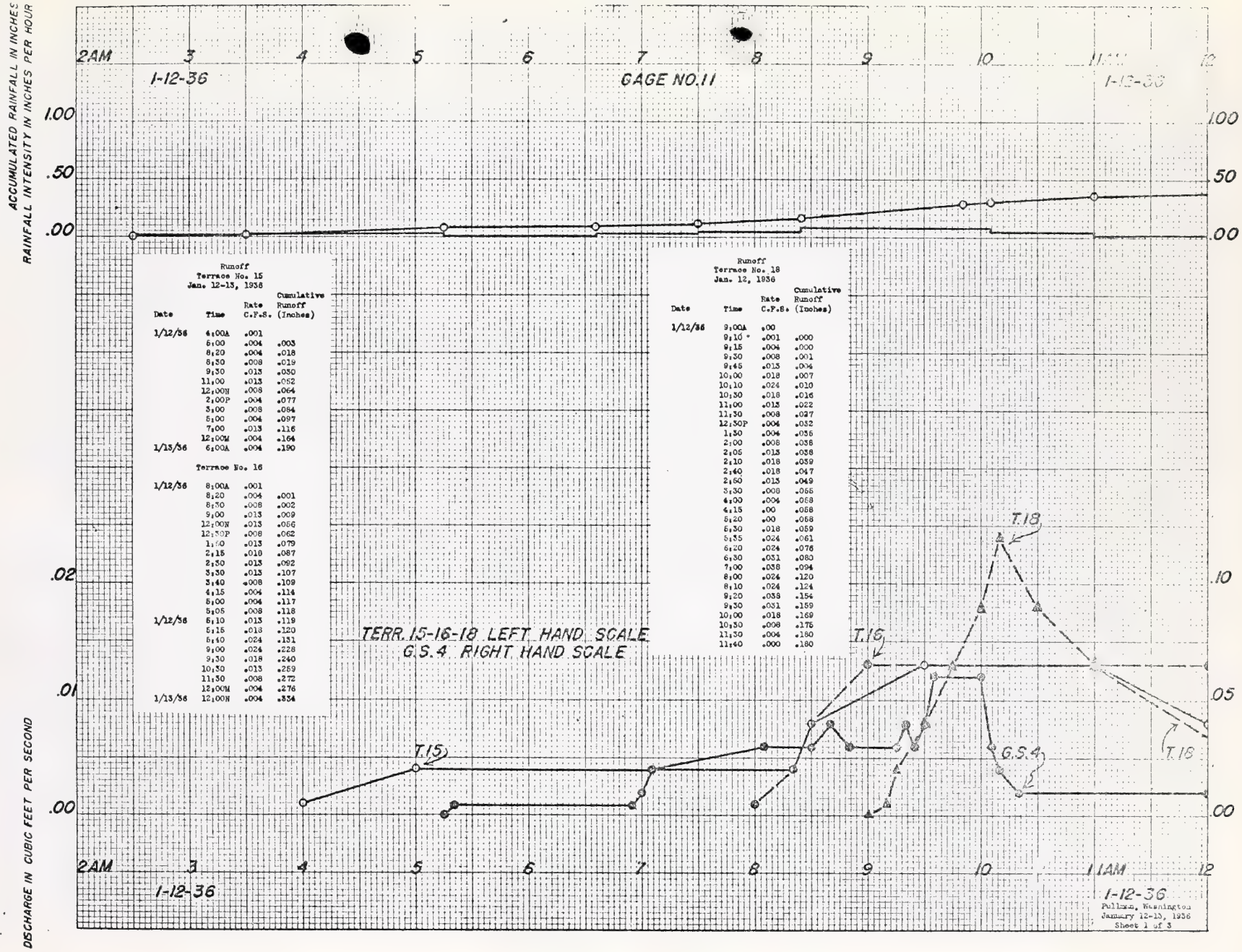
Remarks

Note: No runoff or soil loss on Terraces 17 and 18.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

STORM No. 5

Plot by MEG date 12-8-39 checked by JMN date 12-8-39
[illegible] by MEG date 12-7-39 [illegible] by JMN date 12-7-39



Runoff
Terrace No. 15
Jan. 12-13, 1936

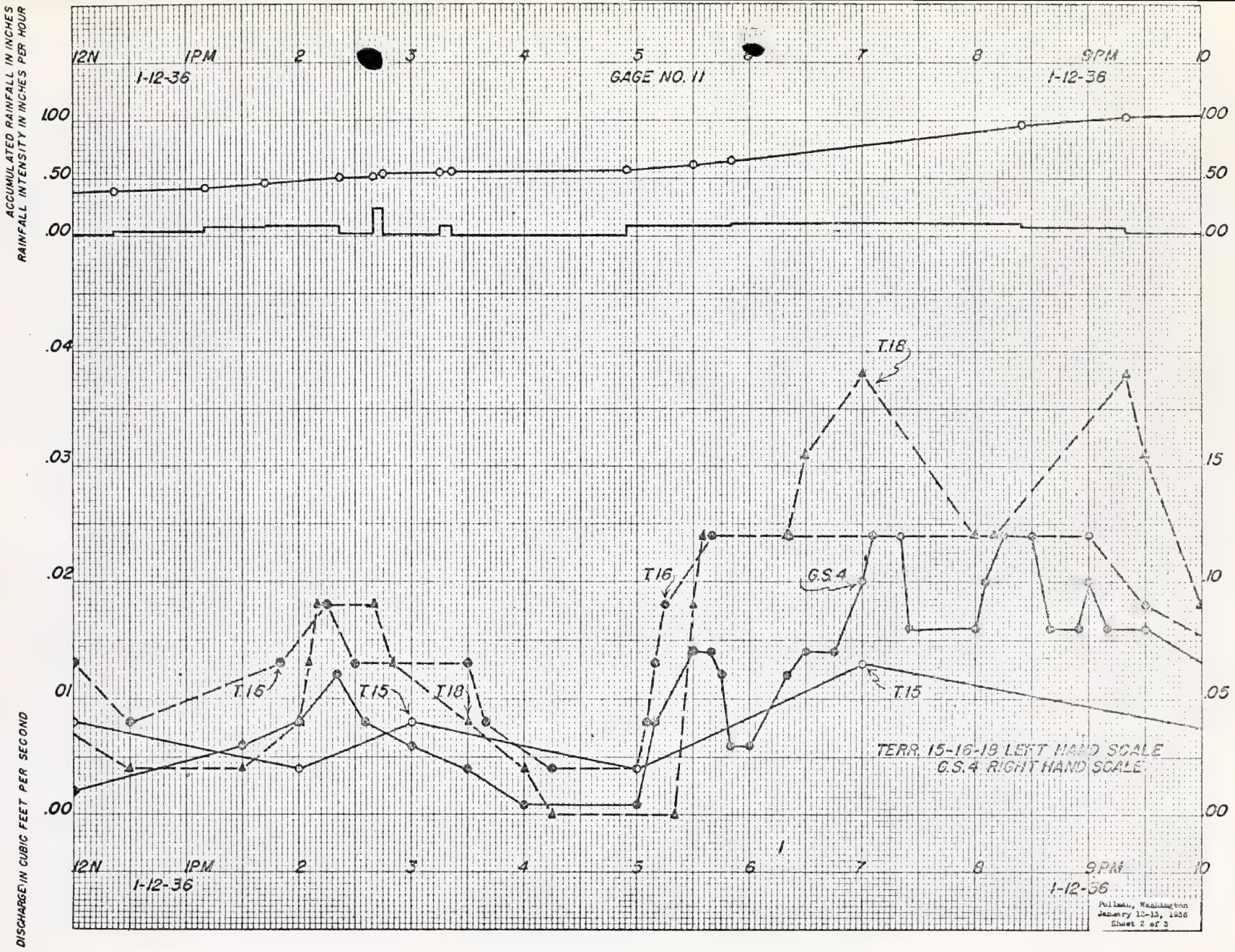
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/12/36	4:00A	.001	
	5:00	.004	.003
	8:20	.004	.018
	8:30	.008	.019
	9:30	.013	.030
	11:00	.013	.052
	12:00N	.008	.064
	2:00P	.004	.077
	3:00	.008	.084
	5:00	.004	.097
	7:00	.013	.116
	12:00M	.004	.164
1/13/36	6:00A	.004	.190

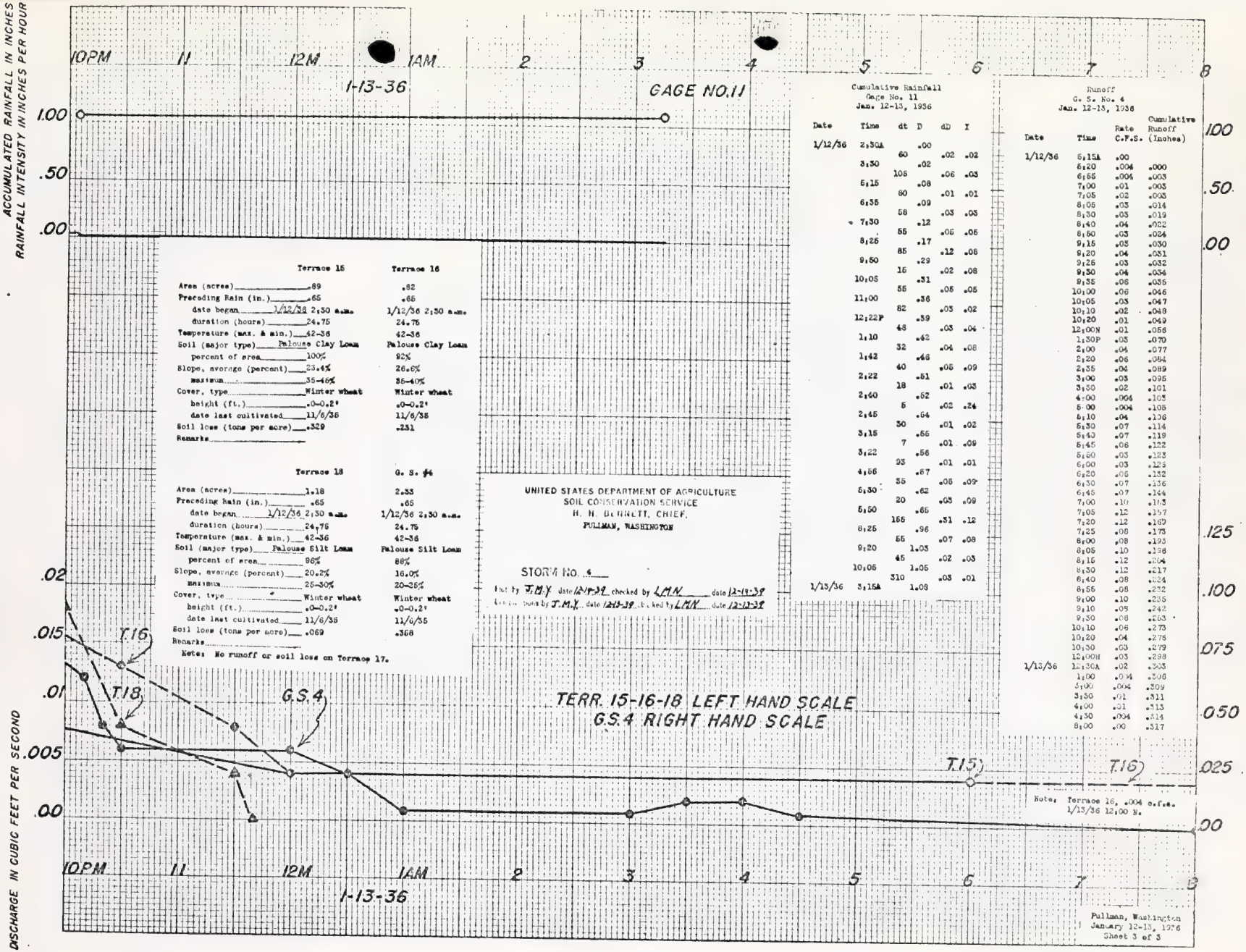
Terrace No. 16

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/12/36	8:00A	.001	
	8:20	.004	.001
	8:30	.008	.002
	9:00	.013	.009
	12:00N	.013	.056
	12:30P	.008	.062
	1:30	.013	.079
	2:15	.018	.087
	2:30	.013	.092
	3:30	.013	.107
	3:40	.008	.109
	4:15	.004	.114
	5:00	.004	.117
	5:05	.008	.118
1/12/36	5:10	.013	.119
	5:15	.018	.120
	5:40	.024	.131
	9:00	.024	.228
	9:30	.018	.240
	10:30	.013	.259
	11:30	.008	.272
	12:00M	.004	.276
1/13/36	12:00N	.004	.334

Runoff
Terrace No. 18
Jan. 12, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/12/36	9:00A	.00	
	9:10	.001	.000
	9:15	.004	.000
	9:30	.008	.001
	9:45	.013	.004
	10:00	.018	.007
	10:10	.024	.010
	10:30	.018	.016
	11:00	.013	.022
	11:30	.008	.027
	12:30P	.004	.032
	1:30	.004	.036
	2:00	.008	.038
	2:05	.013	.038
	2:10	.018	.039
	2:40	.018	.047
	2:50	.013	.049
	3:30	.008	.055
	4:00	.004	.058
	4:15	.00	.058
	5:20	.00	.058
	5:30	.018	.059
	5:35	.024	.061
	6:20	.024	.076
	6:30	.031	.080
	7:00	.038	.094
	8:00	.024	.120
	8:10	.024	.124
	9:20	.038	.154
	9:30	.031	.159
	10:00	.018	.169
	10:30	.008	.175
	11:30	.004	.180
	11:40	.000	.180


ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HOUR
DISCHARGE IN CUBIC FEET PER SECOND
12N
1PM
2
3
4
5
6
7
8
9PM
10
1-12-36
GAGE NO. 11
1.00
.50
.00
.04
.03
.02
.01
.00
.15
.10
.05
T.18
T.16
T.15
G.S.4
TERR. 15-16-18 LEFT HAND SCALE
G.S.4 RIGHT HAND SCALE
Pullman, Washington
January 12-13, 1936
Sheet 2 of 3



	Terrace 15	Terrace 16
Area (acres)	.89	.82
Preceding Rain (in.)	.65	.65
date began	1/12/36 2:30 a.m.	1/12/36 2:30 a.m.
duration (hours)	24.75	24.75
Temperature (max. & min.)	42-36	42-36
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam
percent of area	100%	92%
Slope, average (percent)	23.4%	26.6%
maximum	35-46%	35-40%
Cover, type	Winter wheat	Winter wheat
height (ft.)	.0-0.2'	.0-0.2'
date last cultivated	11/6/35	11/6/35
Soil loss (tons per acre)	.329	.231
Remarks		

	Terrace 18	G. S. #4
Area (acres)	1.18	2.33
Preceding Rain (in.)	.65	.65
date began	1/12/36 2:30 a.m.	1/12/36 2:30 a.m.
duration (hours)	24.75	24.75
Temperature (max. & min.)	42-36	42-36
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	96%	88%
Slope, average (percent)	20.2%	16.0%
maximum	25-30%	20-25%
Cover, type	Winter wheat	Winter wheat
height (ft.)	.0-0.2'	.0-0.2'
date last cultivated	11/6/35	11/6/35
Soil loss (tons per acre)	.069	.368
Remarks		

Note: No runoff or soil loss on Terrace 17.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 4

Plot by J.M.Y date 12-17-39 checked by L.M.N. date 12-19-39
Rainfall data by J.M.Y. date 12-13-39 checked by L.M.N. date 12-13-39

Cumulative Rainfall
Gage No. 11
Jan. 12-13, 1936

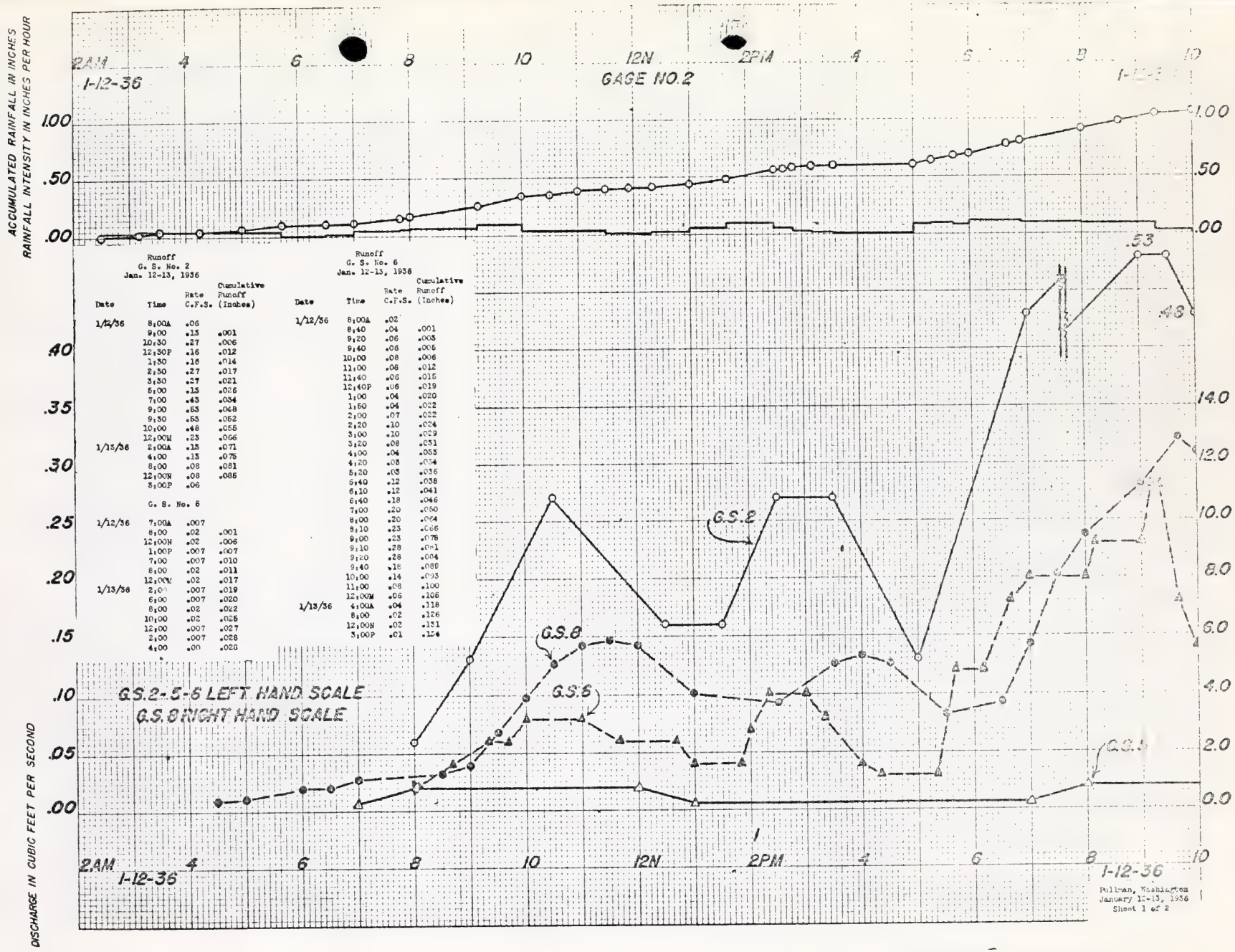
Date	Time	dt	D	dD	I
1/12/36	2:30A		.00		
		60		.02	.02
	3:30		.02		
		105		.06	.03
	5:15		.08		
		80		.01	.01
	6:35		.09		
		58		.03	.03
	7:30		.12		
		55		.05	.05
	8:25		.17		
		85		.12	.08
	9:50		.29		
		16		.02	.08
	10:05		.31		
		55		.05	.05
	11:00		.36		
		82		.03	.02
	12:22P		.39		
		48		.03	.04
	1:10		.42		
		32		.04	.08
	1:42		.46		
		40		.05	.09
	2:22		.51		
		18		.01	.03
	2:40		.52		
		5		.02	.24
	2:45		.54		
		30		.01	.02
	3:15		.55		
		7		.01	.09
	3:22		.56		
		93		.01	.01
	4:56		.57		
		35		.05	.09
	5:30		.62		
		20		.03	.09
	5:50		.65		
		155		.31	.12
	8:25		.96		
		55		.07	.08
	9:20		1.03		
		45		.02	.03
	10:06		1.05		
		310		.03	.01
1/13/36	3:16A		1.08		

Runoff
G. S. No. 4
Jan. 12-13, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/12/36	5:15A	.00	
	5:20	.004	.000
	6:55	.004	.003
	7:00	.01	.003
	7:05	.02	.003
	8:05	.03	.014
	8:30	.03	.019
	8:40	.04	.022
	8:50	.03	.024
	9:15	.03	.030
	9:20	.04	.031
	9:25	.03	.032
	9:30	.04	.034
	9:35	.06	.035
	10:00	.06	.046
	10:05	.03	.047
	10:10	.02	.048
	10:20	.01	.049
	12:00N	.01	.056
	1:30P	.03	.070
	2:00	.04	.077
	2:20	.06	.084
	2:35	.04	.089
	3:00	.03	.095
	3:30	.02	.101
	4:00	.004	.103
	5:00	.004	.105
	5:10	.04	.106
	5:30	.07	.114
	5:40	.07	.119
	5:45	.06	.122
	5:50	.03	.123
	6:00	.03	.125
	6:20	.06	.132
	6:30	.07	.136
	6:45	.07	.144
	7:00	.10	.153
	7:05	.12	.157
	7:20	.12	.169
	7:25	.06	.173
	8:00	.08	.193
	8:05	.10	.196
	8:15	.12	.204
	8:30	.12	.217
	8:40	.08	.224
	8:55	.08	.232
	9:00	.10	.235
	9:10	.05	.242
	9:30	.08	.253
	10:10	.06	.273
	10:20	.04	.278
	10:30	.03	.279
	12:00N	.03	.298
1/13/36	12:20A	.02	.303
	1:00	.004	.306
	3:00	.004	.309
	3:30	.01	.311
	4:00	.01	.313
	4:30	.004	.314
	8:00	.00	.317

Note: Terrace 16, .004 c.f.s. 1/13/36 12:00 N.

Pullman, Washington
January 12-13, 1936
Sheet 3 of 3



Runoff
G. S. No. 2
Jan. 12-13, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/12/36	8:00A	.06	
	9:00	.13	.001
	10:30	.27	.006
	12:30P	.16	.012
	1:30	.16	.014
	2:30	.27	.017
	3:30	.27	.021
	5:00	.15	.026
	7:00	.43	.034
	9:00	.53	.048
	9:30	.53	.052
	10:00	.48	.055
	12:00M	.23	.066
1/13/36	2:00A	.13	.071
	4:00	.13	.075
	8:00	.08	.081
	12:00N	.08	.085
	3:00P	.06	

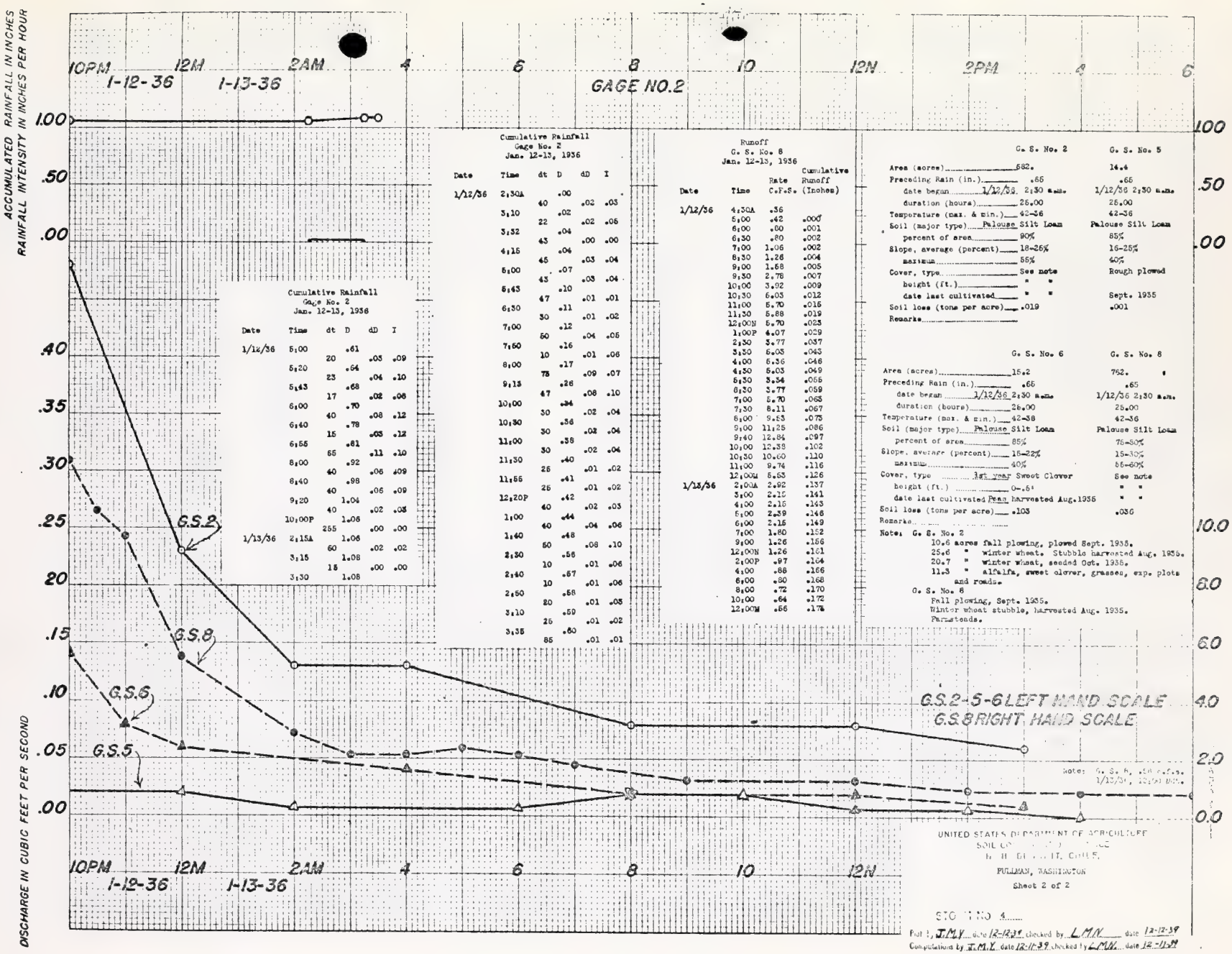
G. S. No. 6

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/12/36	7:00A	.007	
	8:00	.02	.001
	12:00N	.02	.006
	1:00P	.007	.007
	7:00	.007	.010
	8:00	.02	.011
	12:00M	.02	.017
1/13/36	2:00	.007	.019
	6:00	.007	.020
	8:00	.02	.022
	10:00	.02	.025
	12:00	.007	.027
	2:00	.007	.028
	4:00	.00	.028

Runoff
G. S. No. 6
Jan. 12-13, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/12/36	8:00A	.02	
	8:40	.04	.001
	9:20	.06	.003
	9:40	.06	.005
	10:00	.08	.006
	11:00	.08	.012
	11:40	.06	.015
	12:40P	.06	.019
	1:00	.04	.020
	1:50	.04	.022
	2:00	.07	.022
	2:20	.10	.024
	3:00	.10	.029
	3:20	.08	.031
	4:00	.04	.033
	4:20	.03	.034
	5:20	.03	.036
	5:40	.12	.038
	6:10	.12	.041
	6:40	.18	.046
	7:00	.20	.050
	8:00	.20	.064
	8:10	.23	.066
	9:00	.23	.078
	9:10	.28	.081
	9:20	.28	.084
	9:40	.18	.089
	10:00	.14	.093
	11:00	.08	.100
	12:00M	.06	.106
1/13/36	4:00A	.04	.118
	8:00	.02	.126
	12:00N	.02	.131
	3:00P	.01	.134

Pullman, Washington
January 12-13, 1936
Sheet 1 of 2



Cumulative Rainfall
Gage No. 2
Jan. 12-13, 1936

Date	Time	dt	D	dD	I
1/12/36	5:00		.61		
		20		.03	.09
	5:20		.64		
		23		.04	.10
	5:43		.68		
		17		.02	.08
	6:00		.70		
		40		.08	.12
	6:40		.78		
		15		.03	.12
	6:55		.81		
		55		.11	.10
	8:00		.92		
		40		.06	.09
	8:40		.98		
		40		.06	.09
	9:20		1.04		
		40		.02	.03
	10:00P		1.06		
		255		.00	.00
1/13/36	2:15A		1.06		
		60		.02	.02
	3:15		1.08		
		15		.00	.00
	3:30		1.08		

Cumulative Rainfall
Gage No. 2
Jan. 12-13, 1936

Date	Time	dt	D	dD	I
1/12/36	2:30A		.00		
		40		.02	.03
	3:10		.02		
		22		.02	.05
	3:32		.04		
		43		.00	.00
	4:15		.04		
		45		.03	.04
	5:00		.07		
		43		.03	.04
	5:43		.10		
		47		.01	.01
	6:30		.11		
		30		.01	.02
	7:00		.12		
		50		.04	.05
	7:50		.16		
		10		.01	.06
	8:00		.17		
		75		.09	.07
	9:15		.26		
		47		.08	.10
	10:00		.34		
		30		.02	.04
	10:30		.36		
		30		.02	.04
	11:00		.38		
		30		.02	.04
	11:30		.40		
		25		.01	.02
	11:55		.41		
		25		.01	.02
	12:20P		.42		
		40		.02	.03
	1:00		.44		
		40		.04	.06
	1:40		.48		
		50		.08	.10
	2:30		.56		
		10		.01	.06
	2:40		.57		
		10		.01	.06
	2:50		.58		
		20		.01	.03
	3:10		.59		
		25		.01	.02
	3:35		.60		
		85		.01	.01

Runoff
G. S. No. 8
Jan. 12-13, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
1/12/36	4:30A	.36	
	5:00	.42	.000
	6:00	.50	.001
	6:30	.80	.002
	7:00	1.06	.002
	8:30	1.26	.004
	9:00	1.68	.005
	9:30	2.78	.007
	10:00	3.92	.009
	10:30	6.03	.012
	11:00	5.70	.015
	11:30	5.88	.019
	12:00N	5.70	.023
	1:00P	4.07	.029
	2:30	3.77	.037
	3:30	5.03	.043
	4:00	5.36	.046
	4:30	5.03	.049
	5:30	3.34	.055
	6:30	3.77	.059
	7:00	5.70	.063
	7:30	8.11	.067
	8:00	9.53	.073
	9:00	11.25	.086
	9:40	12.84	.097
	10:00	12.38	.102
	10:30	10.60	.110
	11:00	9.74	.116
	12:00M	8.53	.126
1/13/36	2:00A	2.92	.137
	3:00	2.15	.141
	4:00	2.15	.143
	5:00	2.39	.146
	6:00	2.15	.149
	7:00	1.80	.152
	9:00	1.26	.156
	12:00N	1.26	.161
	2:00P	.97	.164
	4:00	.88	.166
	6:00	.80	.168
	8:00	.72	.170
	10:00	.64	.172
	12:00M	.56	.174

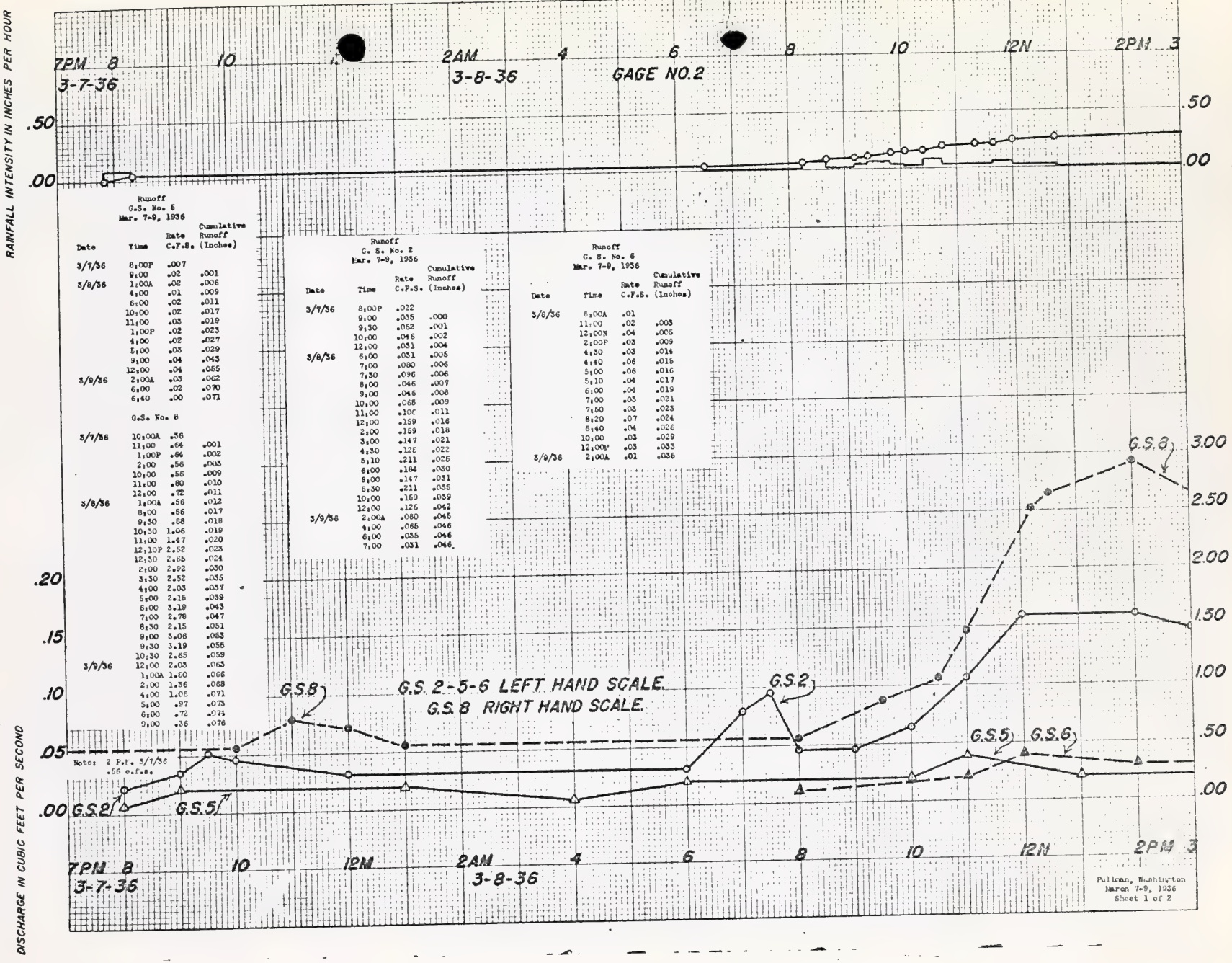
	G. S. No. 2	G. S. No. 5
Area (acres)	582.	14.4
Preceding Rain (in.)	.65	.65
date began	1/12/36 2:30 a.m.	1/12/36 2:30 a.m.
duration (hours)	25.00	25.00
Temperature (max. & min.)	42-36	42-36
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-26%	16-25%
maximum	55%	40%
Cover, type	See note	Rough plowed
height (ft.)	" "	
date last cultivated	" "	Sept. 1935
Soil loss (tons per acre)	.019	.001
Remarks		

	G. S. No. 6	G. S. No. 8
Area (acres)	15.2	752.
Preceding Rain (in.)	.65	.65
date began	1/12/36 2:30 a.m.	1/12/36 2:30 a.m.
duration (hours)	25.00	25.00
Temperature (max. & min.)	42-38	42-36
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	15-22%	15-30%
maximum	40%	55-60%
Cover, type	1st year Sweet Clover	See note
height (ft.)	0-.5'	" "
date last cultivated	Peas harvested Aug. 1935	" "
Soil loss (tons per acre)	.103	.036
Remarks		

Note: G. S. No. 2
10.6 acres fall plowing, plowed Sept. 1935.
25.6 " winter wheat. Stubble harvested Aug. 1935.
20.7 " winter wheat, seeded Oct. 1935.
11.3 " alfalfa, sweet clover, grasses, exp. plots and roads.

G. S. No. 8
Fall plowing, Sept. 1935.
Winter wheat stubble, harvested Aug. 1935.
Farmsteads.

Plot by J.M.Y. date 12-12-39 checked by L.M.N. date 12-12-39
Computations by J.M.Y. date 12-12-39 checked by L.M.N. date 12-12-39



Runoff
G.S. No. 5
Mar. 7-9, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/7/36	8:00P	.007	
	9:00	.02	.001
3/8/36	1:00A	.02	.006
	4:00	.01	.009
	6:00	.02	.011
	10:00	.02	.017
	11:00	.03	.019
	1:00P	.02	.023
	4:00	.02	.027
	5:00	.03	.029
	9:00	.04	.043
	12:00	.04	.055
3/9/36	2:00A	.03	.062
	6:00	.02	.070
	6:40	.00	.071

G.S. No. 8

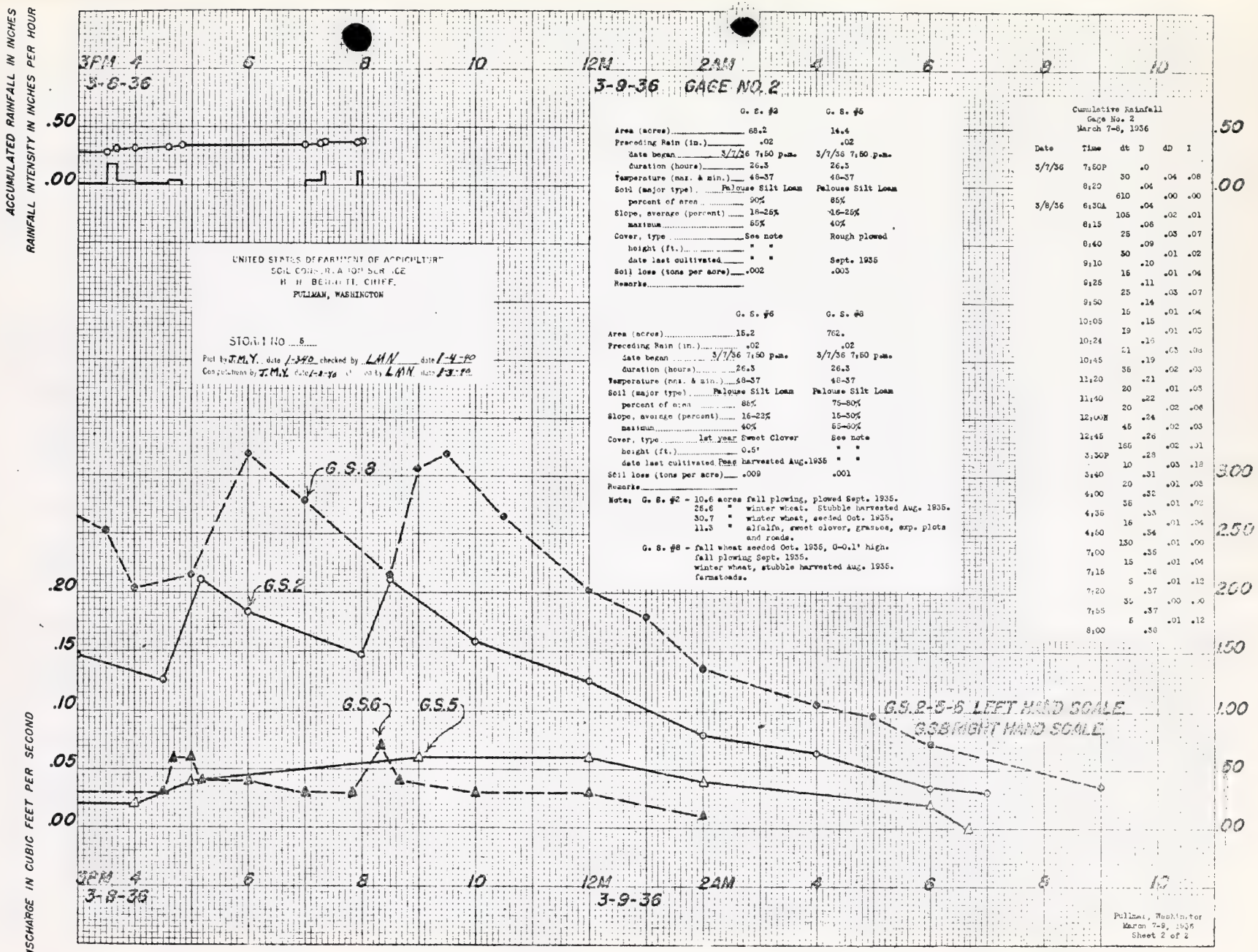
3/7/36	10:00A	.36	
	11:00	.64	.001
	1:00P	.64	.002
	2:00	.56	.003
	10:00	.56	.009
	11:00	.80	.010
	12:00	.72	.011
3/8/36	1:00A	.56	.012
	8:00	.56	.017
	9:30	.88	.018
	10:30	1.06	.019
	11:00	1.47	.020
	12:10P	2.52	.023
	12:30	2.65	.024
	2:00	2.92	.030
	3:30	2.52	.035
	4:00	2.03	.037
	5:00	2.15	.039
	6:00	3.19	.043
	7:00	2.78	.047
	8:30	2.15	.051
	9:00	3.06	.053
	9:30	3.19	.055
	10:30	2.65	.059
3/9/36	12:00	2.03	.063
	1:00A	1.60	.066
	2:00	1.56	.068
	4:00	1.06	.071
	5:00	.97	.073
	6:00	.72	.074
	9:00	.36	.076

Runoff
G. S. No. 2
Mar. 7-9, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/7/36	8:00P	.022	
	9:00	.036	.000
	9:30	.052	.001
	10:00	.046	.002
	12:00	.031	.004
3/8/36	6:00	.031	.005
	7:00	.080	.006
	7:30	.096	.006
	8:00	.046	.007
	9:00	.046	.008
	10:00	.065	.009
	11:00	.100	.011
	12:00	.159	.016
	2:00	.159	.018
	3:00	.147	.021
	4:30	.128	.022
	5:10	.211	.026
	6:00	.184	.030
	8:00	.147	.031
	8:30	.211	.035
	10:00	.169	.039
	12:00	.128	.042
3/9/36	2:00A	.080	.045
	4:00	.065	.046
	6:00	.035	.046
	7:00	.031	.046

Runoff
G. S. No. 6
Mar. 7-9, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/6/36	8:00A	.01	
	11:00	.02	.003
	12:00N	.04	.005
	2:00P	.03	.009
	4:30	.03	.014
	4:40	.06	.015
	5:00	.06	.016
	5:10	.04	.017
	6:00	.04	.019
	7:00	.03	.021
	7:50	.03	.023
	8:20	.07	.024
	8:40	.04	.026
	10:00	.03	.029
	12:00	.03	.033
3/9/36	2:00A	.01	.036



UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM NO. 5

Plot by J.M.Y. date 1-3-40 checked by LMN date 1-4-40
Computations by J.M.Y. date 1-2-40 checked by LMN date 1-3-40

	G. S. #2	G. S. #5
Area (acres)	68.2	14.4
Preceding Rain (in.)	.02	.02
date began	3/7/36 7:50 p.m.	3/7/36 7:50 p.m.
duration (hours)	26.3	26.3
Temperature (max. & min.)	48-37	48-37
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	15-25%
maximum	55%	40%
Cover, type	See note	Rough plowed
height (ft.)	" "	
date last cultivated	" "	Sept. 1935
Soil loss (tons per acre)	.002	.003
Remarks		

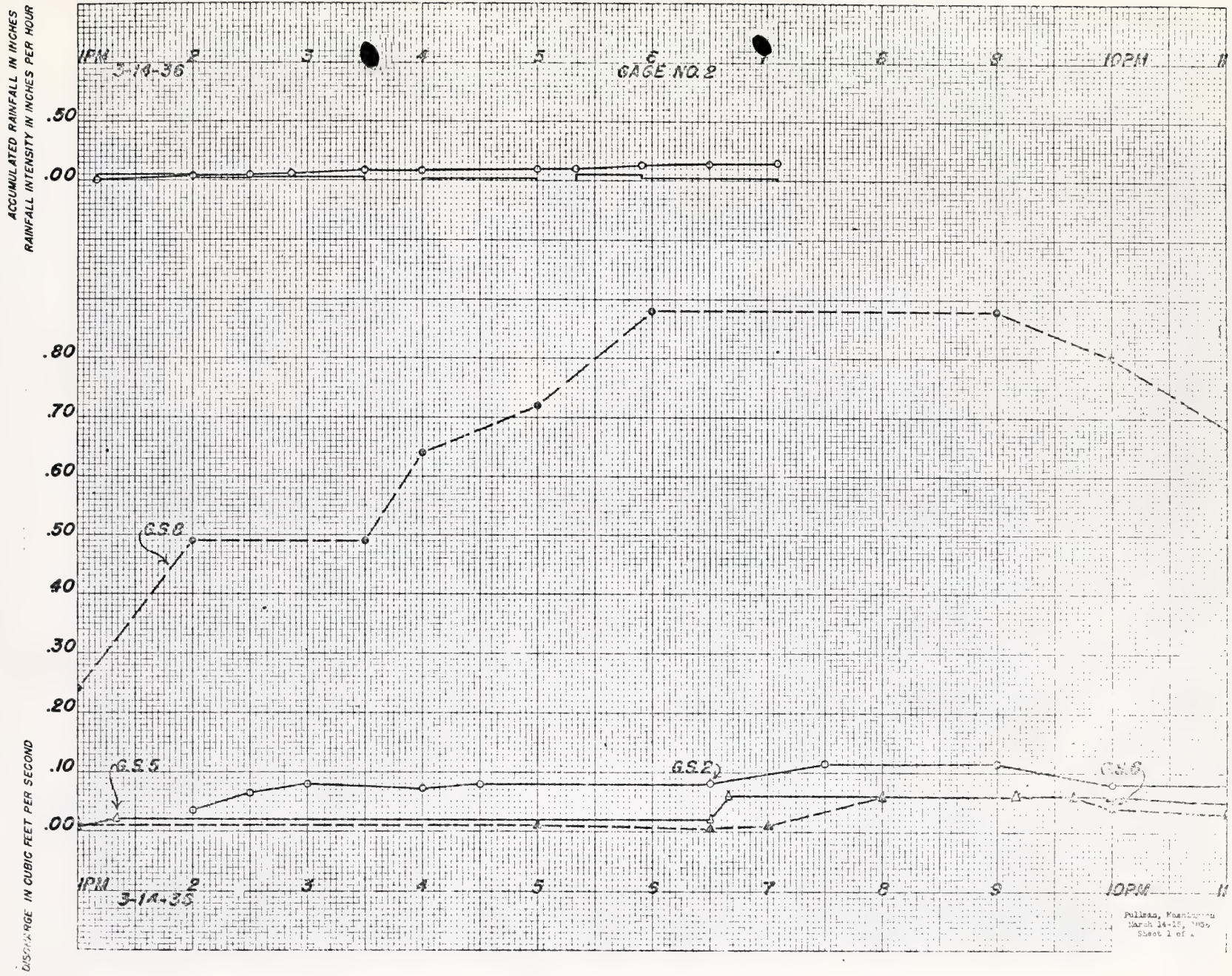
	G. S. #6	G. S. #8
Area (acres)	15.2	762.
Preceding Rain (in.)	.02	.02
date began	3/7/36 7:50 p.m.	3/7/36 7:50 p.m.
duration (hours)	26.3	26.3
Temperature (max. & min.)	48-37	48-37
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	16-22%	15-30%
maximum	40%	65-80%
Cover, type	1st year Sweet Clover	See note
height (ft.)	0.5'	" "
date last cultivated	Peas harvested Aug.1935	" "
Soil loss (tons per acre)	.009	.001
Remarks		

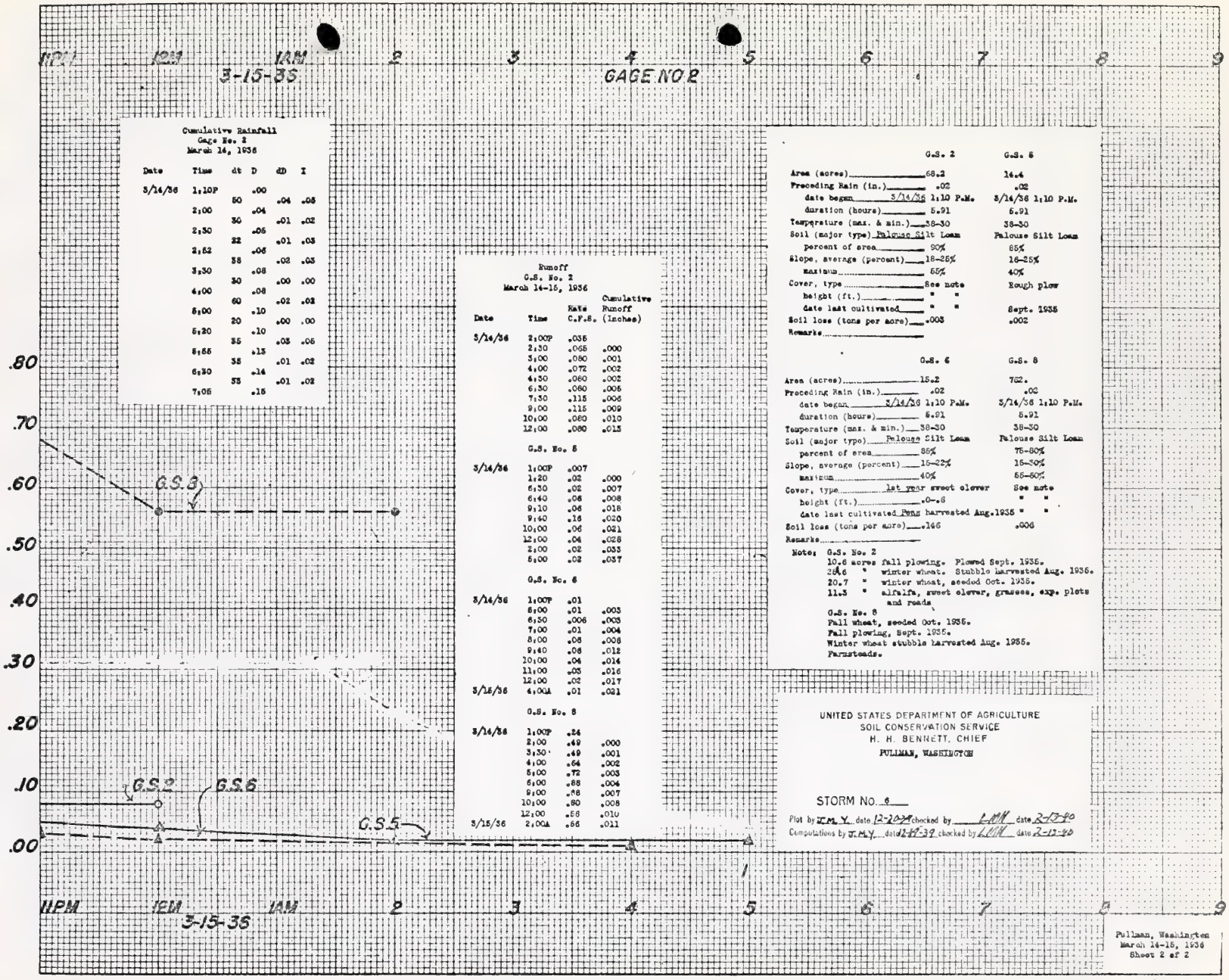
Note: G. S. #2 - 10.6 acres fall plowing, plowed Sept. 1935.
25.6 " winter wheat. Stubble harvested Aug. 1935.
30.7 " winter wheat, seeded Oct. 1935.
11.3 " alfalfa, sweet clover, grasses, exp. plots and roads.

G. S. #8 - fall wheat seeded Oct. 1935, 0-0.1' high.
fall plowing Sept. 1935.
winter wheat, stubble harvested Aug. 1935.
farmstead.

Cumulative Rainfall
Gage No. 2
March 7-8, 1936

Date	Time	dt	D	dD	I
3/7/36	7:50P		.0		
		30		.04	.08
	8:20		.04		
		610		.00	.00
3/8/36	6:30A		.04		
		105		.02	.01
	8:15		.06		
		25		.03	.07
	8:40		.09		
		30		.01	.02
	9:10		.10		
		16		.01	.04
	9:26		.11		
		25		.03	.07
	9:50		.14		
		16		.01	.04
	10:05		.15		
		19		.01	.03
	10:24		.16		
		21		.03	.08
	10:45		.19		
		35		.02	.03
	11:20		.21		
		20		.01	.03
	11:40		.22		
		20		.02	.06
	12:00N		.24		
		45		.02	.03
	12:45		.26		
		165		.02	.01
	3:30P		.28		
		10		.03	.18
	3:40		.31		
		20		.01	.03
	4:00		.32		
		35		.01	.02
	4:35		.33		
		16		.01	.04
	4:50		.34		
		130		.01	.00
	7:00		.35		
		15		.01	.04
	7:15		.36		
		5		.01	.12
	7:20		.37		
		35		.00	.00
	7:55		.37		
		5		.01	.12
	8:00		.38		


ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HOUR
DISCHARGE IN CUBIC FEET PER SECOND
1PM
2
3
4
5
6
7
8
9
10PM
11
3-14-36
GAGE NO. 2
.50
.00
.80
.70
.60
.50
.40
.30
.20
.10
.00
G.S.8
G.S.5
G.S.2
G.S.6
3-14-35
Pullman, Washington
March 14-15, 1935
Sheet 1 of 1



Cumulative Rainfall
Gage No. 2
March 14, 1936

Date	Time	dt	D	dD	I
3/14/36	1:10P		.00		
		50		.04	.05
	2:00		.04		
		30		.01	.02
	2:30		.05		
		22		.01	.03
	2:52		.06		
		38		.02	.03
	3:30		.08		
		30		.00	.00
	4:00		.08		
		60		.02	.02
	5:00		.10		
		20		.00	.00
	5:20		.10		
		35		.03	.05
	5:55		.13		
		35		.01	.02
	6:30		.14		
		35		.01	.02
	7:05		.15		

Runoff
G.S. No. 2
March 14-15, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/14/36	2:00P	.036	
	2:30	.065	.000
	3:00	.080	.001
	4:00	.072	.002
	4:30	.060	.002
	6:30	.060	.005
	7:30	.115	.006
	9:00	.115	.009
	10:00	.080	.010
	12:00	.080	.013
	G.S. No. 5		
3/14/36	1:00P	.007	
	1:20	.02	.000
	5:30	.02	.007
	6:40	.06	.008
	9:10	.06	.018
	9:40	.16	.020
	10:00	.06	.021
	12:00	.04	.028
	2:00	.02	.033
	5:00	.02	.037
	G.S. No. 6		
3/14/36	1:00P	.01	
	5:00	.01	.003
	6:30	.006	.003
	7:00	.01	.004
	8:00	.08	.008
	9:40	.06	.012
	10:00	.04	.014
	11:00	.03	.016
	12:00	.02	.017
3/15/36	4:00A	.01	.021
	G.S. No. 8		
3/14/36	1:00P	.24	
	2:00	.49	.000
	3:30	.49	.001
	4:00	.64	.002
	5:00	.72	.003
	6:00	.88	.004
	9:00	.88	.007
	10:00	.80	.008
	12:00	.56	.010
3/15/36	2:00A	.56	.011

	G.S. 2	G.S. 5
Area (acres)	68.2	14.4
Preceding Rain (in.)	.02	.02
date began	3/14/36 1:10 P.M.	3/14/36 1:10 P.M.
duration (hours)	5.91	5.91
Temperature (max. & min.)	38-30	38-30
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-25%
maximum	55%	40%
Cover, type	See note	Rough plow
height (ft.)	" "	
date last cultivated	" "	Sept. 1935
Soil loss (tons per acre)	.003	.002
Remarks		

	G.S. 6	G.S. 8
Area (acres)	15.2	752.
Preceding Rain (in.)	.02	.02
date began	3/14/36 1:10 P.M.	3/14/36 1:10 P.M.
duration (hours)	5.91	5.91
Temperature (max. & min.)	38-30	38-30
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	16-22%	15-30%
maximum	40%	55-60%
Cover, type	1st year sweet clover	See note
height (ft.)	.0-.6	" "
date last cultivated	Peas harvested Aug. 1935	" "
Soil loss (tons per acre)	.146	.006
Remarks		

Note: G.S. No. 2
10.6 acres fall plowing. Plowed Sept. 1935.
26.6 " winter wheat. Stubble harvested Aug. 1936.
20.7 " winter wheat, seeded Oct. 1935.
11.3 " alfalfa, sweet clover, grasses, exp. plots and roads

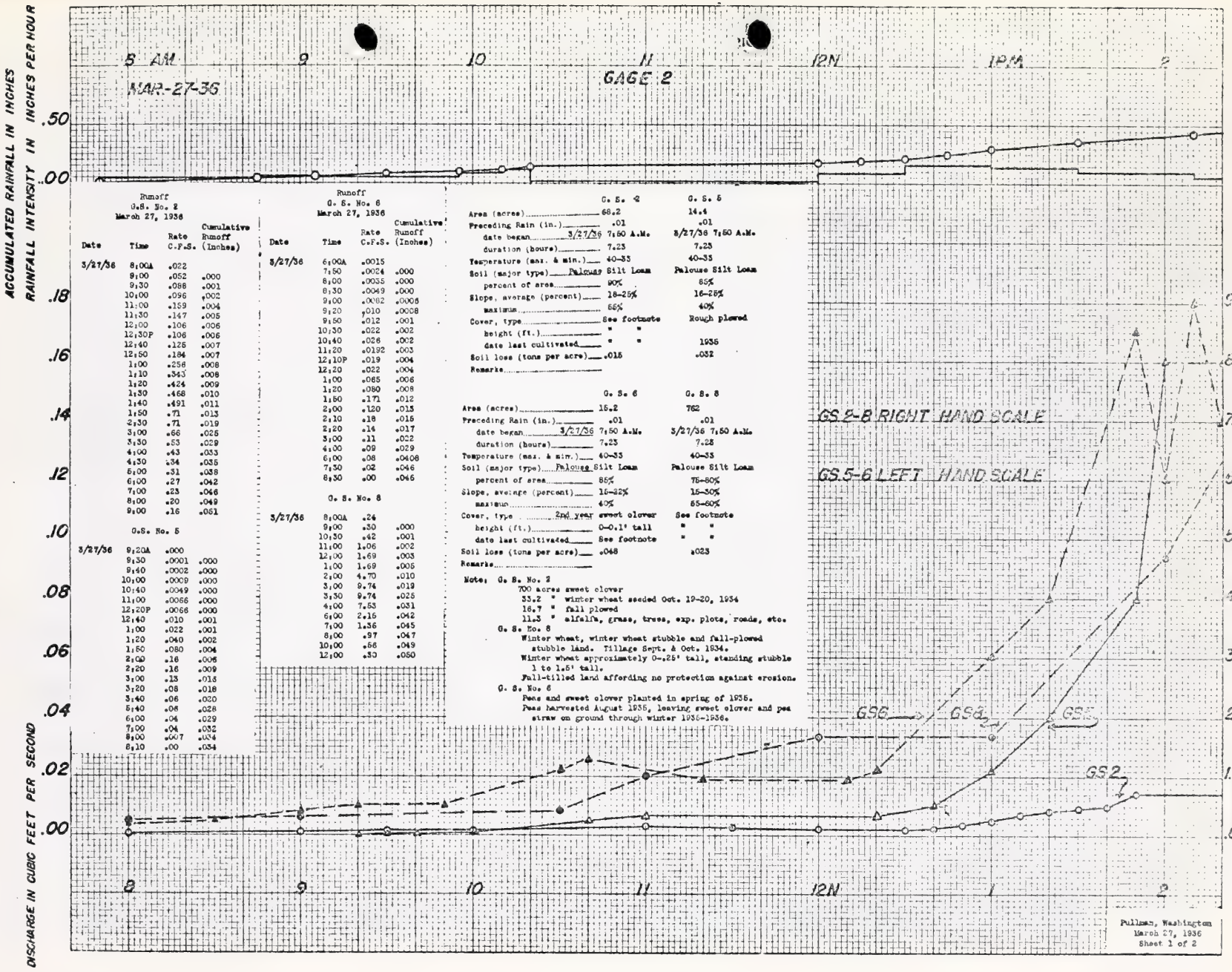
G.S. No. 8
Fall wheat, seeded Oct. 1935.
Fall plowing, Sept. 1935.
Winter wheat stubble harvested Aug. 1935.
Farmsteads.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF
PULLMAN, WASHINGTON

STORM NO. 6

Plot by J.M.Y. date 12-20-39 checked by L.W.M. date 2-12-40
Computations by J.M.Y. date 2-8-39 checked by L.W.M. date 2-12-40

Pullman, Washington
March 14-15, 1936
Sheet 2 of 2



Runoff
G.S. No. 2
March 27, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/36	8:00A	.022	
	9:00	.052	.000
	9:30	.088	.001
	10:00	.096	.002
	11:00	.159	.004
	11:30	.147	.005
	12:00	.106	.006
	12:30P	.106	.006
	12:40	.125	.007
	12:50	.184	.007
	1:00	.258	.008
	1:10	.343	.008
	1:20	.424	.009
	1:30	.468	.010
	1:40	.491	.011
	1:50	.71	.013
	2:30	.71	.019
	3:00	.66	.025
	3:30	.53	.029
	4:00	.43	.033
	4:30	.34	.035
	5:00	.31	.038
	6:00	.27	.042
	7:00	.23	.046
	8:00	.20	.049
	9:00	.16	.051

G.S. No. 5

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/36	9:20A	.000	
	9:30	.0001	.000
	9:40	.0002	.000
	10:00	.0009	.000
	10:40	.0049	.000
	11:00	.0066	.000
	12:20P	.0066	.000
	12:40	.010	.001
	1:00	.022	.001
	1:20	.040	.002
	1:50	.080	.004
	2:00	.16	.006
	2:20	.16	.009
	3:00	.13	.013
	3:20	.08	.018
	3:40	.06	.020
	5:40	.06	.028
	6:00	.04	.029
	7:00	.04	.032
	8:00	.007	.034
	8:10	.00	.034

Runoff
G. S. No. 6
March 27, 1936

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/36	6:00A	.0015	
	7:50	.0024	.000
	8:00	.0035	.000
	8:30	.0049	.000
	9:00	.0082	.0005
	9:20	.010	.0008
	9:50	.012	.001
	10:30	.022	.002
	10:40	.026	.002
	11:20	.0192	.003
	12:10P	.019	.004
	12:20	.022	.004
	1:00	.065	.006
	1:20	.080	.008
	1:50	.171	.012
	2:00	.120	.015
	2:10	.18	.015
	2:20	.14	.017
	3:00	.11	.022
	4:00	.09	.029
	6:00	.08	.0408
	7:30	.02	.046
	8:30	.00	.046

G. S. No. 8

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/27/36	8:00A	.24	
	9:00	.30	.000
	10:30	.42	.001
	11:00	1.06	.002
	12:00	1.69	.003
	1:00	1.69	.005
	2:00	4.70	.010
	3:00	9.74	.019
	3:30	9.74	.025
	4:00	7.53	.031
	6:00	2.16	.042
	7:00	1.36	.045
	8:00	.97	.047
	10:00	.56	.049
	12:00	.30	.050

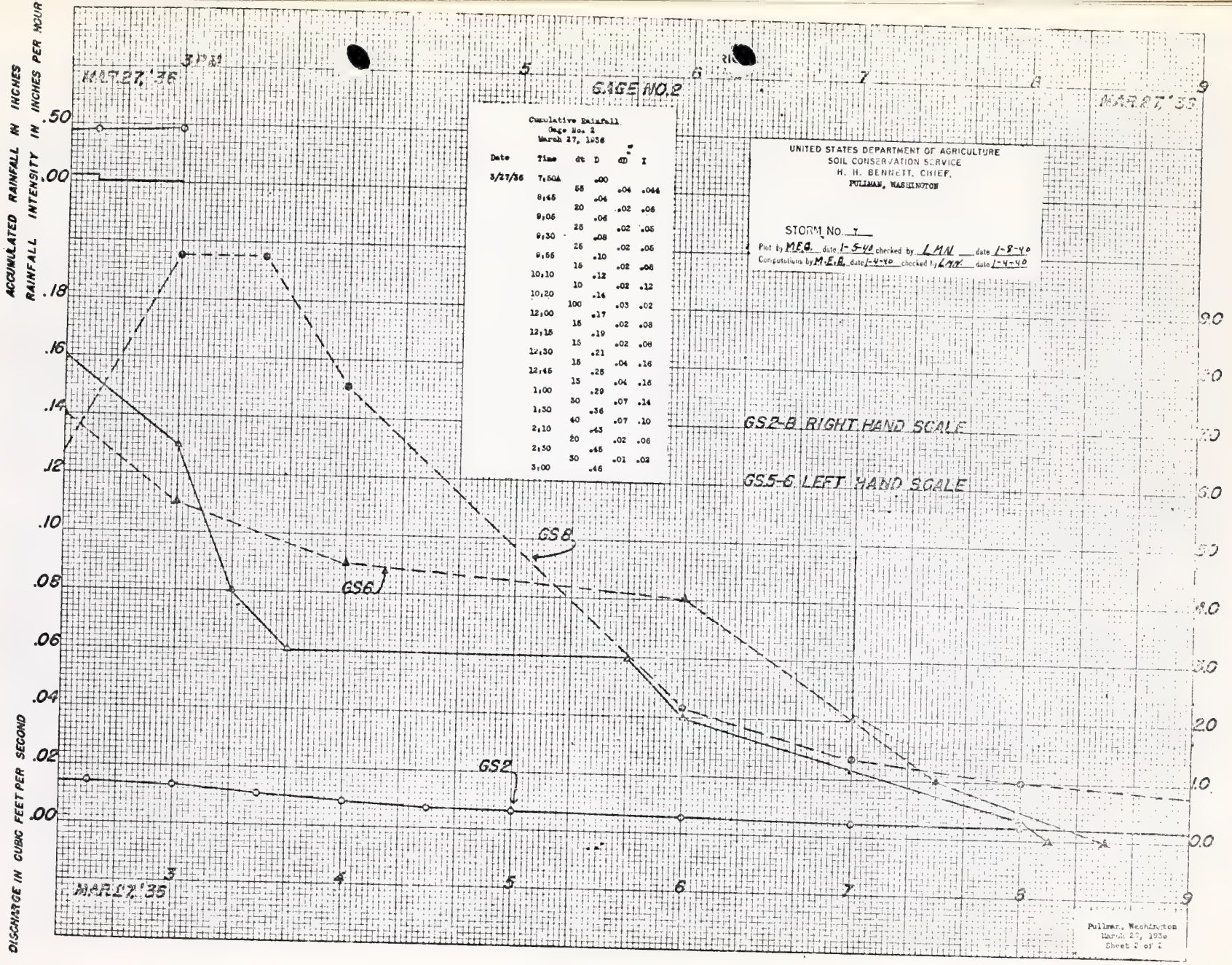
	G. S. 2	G. S. 5
Area (acres)	68.2	14.4
Preceding Rain (in.)	.01	.01
date began 3/27/36	7:50 A.M.	3/27/36 7:50 A.M.
duration (hours)	7.23	7.23
Temperature (max. & min.)	40-33	40-33
Soil (major type) Palouse	Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-25%
maximum	55%	40%
Cover, type	See footnote	Rough plowed
height (ft.)	" "	
date last cultivated	" "	1935
Soil loss (tons per acre)	.015	.032
Remarks		

	G. S. 6	G. S. 8
Area (acres)	15.2	762
Preceding Rain (in.)	.01	.01
date began 3/27/36	7:50 A.M.	3/27/36 7:50 A.M.
duration (hours)	7.23	7.23
Temperature (max. & min.)	40-33	40-33
Soil (major type) Palouse	Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	15-22%	15-30%
maximum	40%	55-60%
Cover, type 2nd year	sweet clover	See footnote
height (ft.)	0-0.1' tall	" "
date last cultivated	See footnote	" "
Soil loss (tons per acre)	.048	.023
Remarks		

Note: G. S. No. 2
700 acres sweet clover
33.2 " winter wheat seeded Oct. 19-20, 1934
16.7 " fall plowed
11.3 " alfalfa, grass, trees, exp. plots, roads, etc.

G. S. No. 8
Winter wheat, winter wheat stubble and fall-plowed stubble land. Tillage Sept. & Oct. 1934.
Winter wheat approximately 0-.25' tall, standing stubble 1 to 1.5' tall.
Fall-tilled land affording no protection against erosion.

G. S. No. 6
Peas and sweet clover planted in spring of 1935.
Peas harvested August 1935, leaving sweet clover and pea straw on ground through winter 1935-1936.



Cumulative Rainfall
Gage No. 2
March 27, 1936

Date	Time	dt	D	dD	I
3/27/36	7:50A		.00		
		55		.04	.044
	8:45		.04		
		20		.02	.06
	9:05		.06		
		25		.02	.05
	9:30		.08		
		25		.02	.05
	9:55		.10		
		15		.02	.08
	10:10		.12		
		10		.02	.12
	10:20		.14		
		100		.03	.02
	12:00		.17		
		15		.02	.08
	12:15		.19		
		15		.02	.08
	12:30		.21		
		15		.04	.16
	12:45		.25		
		15		.04	.16
	1:00		.29		
		30		.07	.14
	1:30		.36		
		40		.07	.10
	2:10		.43		
		20		.02	.06
	2:30		.45		
		30		.01	.02
	3:00		.46		

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: January & February, 1937

Sheet 1 of 10 sheets

Date	Watershed Number	Watershed Area (acres)	Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F.)	Temperature Minimum (degrees F.)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January 1937									
1/3			2	Snow		0.03				36	5			No Runoff					Jan. 1 - Feb. 1, soil frozen hard to depth of 5" to 6". Snow accumulating.
1/4			2	"		0.20				38	12			ditto					
1/13			2	"		0.46				23	-6				"				
1/14			2	"		0.15				34	7				"				
1/15			2	"		1.23				32	10				"				
1/16			2	"		0.17				32	2				"				
1/18			2	"		0.21				20	13				"				
1/21			2	"		0.30				9	-19				"				
1/23			2	"		0.09				12	-10				"				
1/24			2	"		0.41				17	4				"				
1/25			2	"		0.10				26	0				"				
1/26			2	"		0.26				27	16				"				
1/27			2	"		0.12				30	18				"				
										February 1937									
2/2			2	"		0.15				35	30				"				Feb. 1 - 20, soil frozen to depth of 5" to 8". Most of snow blown away by Feb. 20.
2/3			2	"		0.11				36	16				"				
2/4			2	"		0.04				39	24				"				
2/4			2	4:15PM	170	0.10	.06	.06	.06						"				
2/5			2	Snow		0.34				33	27				"				
2/7			2	"		0.38				25	15				"				
2/9			2	"		0.06				22	5				"				
2/11			2	Rain & snow		0.28				38	16				"				
2/11			2	1:35PM	535	0.09	.04	.04	.06						"				
2/13			2	Snow		0.26				35	16				"				
2/15			2	"		0.10				38	17				"				
2/17			2	"		0.33				39	23				"				
2/20-21			2	Rain & snow		0.53				37	2				"				
2/21-24	G.S. 2	68.2	2			0.00				54	31	12 PM	8 PM	0.100	0.256	6 PM (24)		0.001	
2/22-24	G.S. 5	14.4										8 AM	5 PM	0.179	0.08	5 PM (24)		0.007	
2/21-24	G.S. 6	15.2										12 PM	6 PM	0.210	0.07	4 PM (24)		0.003	Feb. 20 - Mar. 1, soil wet with drifts on northeast slopes.
2/24-25	G.S. 2		2			0.00				54	24	6 PM	12 PM	0.141	0.384	1 PM		0.003	
	G.S. 5											5 PM	12 PM	0.047	0.08	8 PM (24)		0.002	
	G.S. 6											6 PM	12 PM	0.198	0.20	9:20 AM		0.002	
	G.S. 8	762.										5 PM	12 PM	0.002	0.24	6:20 AM		0.000	
2/26-27	G.S. 2		2	Snow		0.68				38	26	48 hours		0.130	0.343	12 PM		0.002	
	G.S. 5											"	"	0.015	0.012	7 AM		0.000	
	G.S. 6											"	"	0.126	0.211	5:10 PM		0.002	
	G.S. 8											"	"	0.071	0.147	10:10AM		0.001	

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: February & March, 19 37

Sheet 2 of 10 sheets

Date	Watershed Number	Watershed Area (acres)	Gage No.	Rainfall Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F) Maximum	Temperature (degrees F) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										February 1937 (Continued)									
2/28	G.S. 2	68.2				0.00				41	29	24 hours		0.033	0.106	12 Noon		0.001	
	G.S. 5	14.4										"	"	0.002	0.002	2 PM		0.000	
	G.S. 6	15.2										"	"	0.011	0.007	12 Noon		0.000	
	G.S. 8	762.										"	"	0.010	0.420	4 PM		0.000	
										March 1937									
3/1	G.S. 2		2	5:45AM	185	0.06	0.06	0.04	0.02	41	32	24 hours		0.064	0.382	12 PM		0.004	March 1 - 8, soil wet. Snow
	G.S. 5											"	"	0.039	0.068	6 PM		0.001	melting rapidly.
	G.S. 6											"	"	0.028	0.046	12 PM		0.000	
	G.S. 8											"	"	0.027	0.147	12 PM		0.001	
3/1-2			2	10:25PM	600	0.26	0.18	0.14	0.12										
3/2	G.S. 2		2	3:10PM	200	0.28	0.96	0.52	0.28	44	33	24 hours		0.348	0.193	7:10PM		0.022	
	G.S. 5											"	"	0.343	0.700	6:20PM		0.166	
	G.S. 6											"	"	0.420	0.491	12:20PM		0.307	
	G.S. 8											"	"	0.196	12.38	3:30PM		0.028	
3/3-8	G.S. 2					0.00				52	28	192 hours		0.426	1.22	3:30PM	(3)	0.164	March 6, all snow off ground.
	G.S. 5											"	"	0.429	0.256	3:30PM	(3)	0.181	Frost nearly all out of ground.
	G.S. 6											"	"	Record not valid.					Completely out by March 15.
	G.S. 8											"	"	0.459	9.11	3:30PM	(3)	0.190	
3/7	G.S. 4	2.33	11			0.00				49	28	12 Noon	8 PM	0.267	0.06	2:00AM		0.007	
3/7-8	G.S. 4		11			0.00				52	32	12 PM	2 PM	0.062	0.02	5 AM		0.000	
3/9	G.S. 2		2	1 PM	300	0.16	0.09	0.08	0.08	52	36	24 hours		0.035	0.211	2:40PM		0.001	
	G.S. 5											"	"	0.032	0.159	1:30PM		0.001	
	G.S. 6											"	"	0.077	0.171	1:50PM		0.026	
	G.S. 8											"	"	0.038	2.65	3:30PM		0.009	
	G.S. 4											"	"	0.205	0.02	3:30PM		0.001	
3/10-13	G.S. 2		2			0.00				59	32	96 hours		0.096	0.115	6 PM (10)		0.018	
	G.S. 5											"	"	0.248	0.240	1:20PM (12)		0.161	
	G.S. 6											"	"	0.228	0.197	1:20PM (10)		0.131	
	G.S. 8											"	"	0.173	4.22	2:40PM (12)		0.062	
	G.S. 4		11			0.00						"	"	0.143	0.01	4 PM (10)		0.000	
3/14	G.S. 2		2	7:45AM	106	0.06	0.04	0.04	0.03	46	30	24 hours		0.013	0.046	4 AM		0.000	
	G.S. 5											"	"	0.021	0.019	5 PM		0.000	
	G.S. 6											"	"	0.024	0.040	3 PM		0.003	
	G.S. 8											"	"	0.018	1.16	5:10 PM		0.000	

Note: No runoff or soil loss occurred on terraced areas.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: March, 1937

Sheet 3 of 10 sheets

Date	Watershed: Number	Watershed: Area (acres)	Rainfall: Gage No.	Rainfall: Began (hour)	Rainfall: Duration (minutes)	Rainfall: Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	Maximum Intensity: 15 minutes (inches per hour)	Maximum Intensity: 30 minutes (inches per hour)	Temperature (degrees F.): Maximum	Temperature (degrees F.): Minimum	Run-off: Began (hour)	Run-off: Ended (hour)	Run-off: Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										March 1937 (Continued)									
3/15			2	10:30AM	2	0.01	0.03	0.03	0.03	48	34								March 15 - April 28, wheat
	G.S. 2	68.2	2	4:35PM	450	0.41	0.24	0.14	0.14			24 hours		0.031	0.289	6:30PM		0.001	begins to stool out. Soil
	G.S. 5	14.4										"	"	0.056	0.184	6:30PM		0.014	wet to moist.
	G.S. 6	15.2										"	"	0.068	0.197	6:25PM		0.009	G.S. 5-6, wheat
	G.S. 8	762.0										"	"	0.049	6.41	7:40PM		0.029	G.S. 8, typical farming country
																			G.S. 2, see note on Sheet 10.
3/16	G.S. 2					0.00				48	34	"	"	0.030	0.256	12 PM		0.001	
	G.S. 5											"	"	0.045	0.031	1 PM		0.005	
	G.S. 6											"	"	0.046	0.058	1:40PM		0.001	
	G.S. 8											"	"	0.040	4.38	12 PM		0.008	
3/17	G.S. 2		2	7:25AM	300	0.27	0.12	0.12	0.10	53	33	"	"	0.018	0.184	1:30PM		0.000	
	G.S. 5											"	"	0.041	0.125	8:30PM		0.004	
	G.S. 6											"	"	0.055	0.211	9:00PM		0.008	
	G.S. 8											"	"	0.036	5.70	10:10PM		0.015	
3/18-19	G.S. 2					0.00				39	22	48 hours		0.067	0.382	9:20PM	(18)	0.011	
	G.S. 5											"	"	0.043	0.115	7:10PM	(18)	0.005	
	G.S. 6											"	"	0.058	0.063	10:20AM	(18)	0.006	
	G.S. 8											"	"	0.054	2.15	11:30AM	(18)	0.006	
3/20	G.S. 2		2	Snow		0.20				42	28	24 hours		0.039	0.403	2:30PM		0.011	
	G.S. 5											"	"	0.026	0.106	2:40PM		0.001	
	G.S. 6											"	"	0.009	0.005	3:00PM		0.000	
	G.S. 8											"	"	0.014	1.26	2:30PM		0.000	
3/21	G.S. 2					0.00				49	31	"	"	0.040	0.289	6:00AM		0.001	
	G.S. 5											"	"	0.014	0.035	10:20AM		0.000	
	G.S. 6											"	"	0.018	0.007	12 Noon		0.000	
	G.S. 8											"	"	0.011	0.27	10:50AM		0.000	
3/22	G.S. 2		2	No record		0.02	0.02	0.02	0.02	40	35	"	"	0.013	0.046	12 PM		0.000	
	G.S. 5											"	"	0.005	0.007	3:30PM		0.000	
	G.S. 6											"	"	0.020	0.026	3:40PM		0.000	
	G.S. 8											"	"	0.007	0.56	6:00PM		0.000	
3/23	G.S. 2					0.00				47	31	"	"	0.017	0.080	6:40AM		0.001	
	G.S. 5											"	"	0.002	0.005	8:40AM		0.000	
	G.S. 6											"	"	0.020	0.058	6:30AM		0.000	
	G.S. 8											"	"	0.003	0.14	6:00AM		0.000	
3/24-29	G.S. 2					0.00				55	28	144 hours		0.026	0.035	8:30AM	(24)	0.000	
	G.S. 6											"	"	0.038	0.012	8:40AM	(25)	0.000	
	G.S. 8											"	"	0.061	0.80	3:30PM	(24)	0.000	

Note: G.S. 5 March 24-29, no runoff occurred.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month March & April, 1937

Sheet 4 of 10 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F)	Temperature Minimum (degrees F)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Load (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										March 1937 (Continued)									
3/30			2	7:00AM	165	0.10	0.09	0.08	0.08	48	40								
	G.S. 2	68.2	2	1:05PM	210	0.05	0.27	0.12	0.06			24 hours		0.011	0.106	1:40PM		0.001	
	G.S. 5	14.4										12Noon 8 PM		0.001	0.002	5 PM		0.000	
	G.S. 6	15.2										24 hours		0.014	0.052	1:10PM		0.000	
	G.S. 8	762.										" "		0.011	0.80	11:30AM		0.000	
3/30-31	G.S. 2		2	6:10AM	220	0.15	0.09	0.06	0.05	47	36	12 PM	10 PM	0.013	0.096	9:30AM	0.32	0.001	
3/31	G.S. 5											6:50AM	11:20PM	0.002	0.010	9:00AM	0.34	0.000	
3/30-31	G.S. 6											12 PM	11:10PM	0.015	0.031	9:00AM	0.30	0.000	
3/31	G.S. 8											24 hours		0.011	0.56	2:00PM	0.32	0.000	
										April 1937									
*3/31-4/2	G.S. 2	68.2		11:15P	1086	0.36	0.07	0.06	0.05	42		10 PM	3:50AM	0.037	0.211	5:50PM	0.32	0.013	
3/31-4/1	G.S. 5	14.4		11:15P	1086	0.36	0.07	0.06	0.05			11:20PM	4 AM	0.019	0.022	12Noon	0.34	0.001	
	G.S. 6	15.2		11:15p	1086	0.36	0.07	0.06	0.05			11:10PM	3:50AM	0.058	0.096	5:20PM	0.30	0.010	
3/30-4/1	G.S. 8	762.		11:15P	1086	0.36	0.07	0.06	0.05		37	12 PM	8 AM	0.044	2.65	12Noon	0.32	0.002	
4/2	G.S. 2					0.00				44	30	3:50AM	12 PM	0.010	0.125	5:50AM		0.001	
	G.S. 5											4:00AM	12 PM	0.001	0.007	8:50AM		0.000	
	G.S. 6											3:50AM	12 PM	0.012	0.035	8:50AM		0.000	
	G.S. 8											8:00AM	12 PM	0.041	5.36	6:20PM		0.003	
4/2-4	G.S. 2		2	7:15AM	60	0.03	0.03	0.03	0.03	46	31	12 PM	8 AM	0.009	0.031	9:00AM		0.001	
	G.S. 5											12 PM	12:10PM	0.001	0.001	2:00PM		0.000	
	G.S. 6											12 PM	11:50AM	0.016	0.012	8:00AM	(4)	0.001	
	G.S. 8											12 PM	12Noon	0.012	0.42	12Noon		0.000	
*4/4-5	G.S. 2	68.2	2	12Noon	300	0.40	0.40	0.20	0.20	45		8 AM	7 AM	0.044	0.617	4 PM	0.36	0.015	
	G.S. 5	14.4	2	12N	300	0.40	0.40	0.20	0.20			12:10PM	6:40AM	0.019	0.125	3:40PM	0.38	0.005	
	G.S. 6	15.2	2	12N	300	0.40	0.40	0.20	0.20			11:50PM	6 AM	0.046	0.184	3:23PM	0.36	0.020	
	G.S. 8	762.	2	12N	300	0.40	0.40	0.20	0.20		32	12Noon	6 AM	0.040	5.20	6:20PM	0.36	0.000	
4/5	G.S. 2						0.00					7 AM	12 PM	0.011	0.080	7:50AM		0.000	
	G.S. 5											6:40AM	12 PM	0.009	0.040	12:40AM		0.000	
	G.S. 6											6:00AM	12 PM	0.013	0.016	10 AM		0.001	
	G.S. 8											6:00AM	12 PM	0.008	0.42	12Noon		0.000	
*4/5-6	G.S. 2	68.2	2	12Noon	585	0.16	0.08	0.08	0.08	45		12 PM	6 PM	0.023	0.255	2:30AM	0.14	0.000	
	G.S. 5	14.4	2	12N	585	0.16	0.08	0.08	0.08		31	12 PM	4 PM (4/7/37)	0.010	0.058	2:20AM (4/6/37)	0.15	0.000	

*Storms for which graphs were plotted.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT Pullman, Washington

MONTH April, 1937

SHEET 5 OF 10 SHEETS

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F.) Maximum	Temperature (degrees F.) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										April 1937 (Continued)									
4/6	G.S. 6	15.2	2	12N	585	0.16	0.08	0.08	0.08	45		24 hours		0.032	0.106	2:12AM	0.13	0.001	
	G.S. 8	762.	2	12N	585	0.16	0.08	0.08	0.08		31	"	"	0.026	2.65	3:20AM	0.13	0.012	
4/6-9	G.S. 2	68.2				0.00				52	30	12 PM	4 AM	0.013	0.072	5:50AM	(7)	0.000	
	G.S. 5	14.4										12 PM	4 PM (4/7/37)	0.001	0.002	8:40AM	(7)	0.000	
	G.S. 6	15.2										12 PM	4:10AM	0.019	0.016	9 AM	(7)	0.001	
	G.S. 8	762.										12 PM	12 PM	0.029	0.24	12Noon	(8)	0.000	
*4/9			2	4:25AM	630	0.24	0.12	0.08	0.08	49	43								
4/10			2	3:15AM	130	0.05	0.04	0.04	0.02	46	36								
4/10			2	5:45PM	45	0.11	0.21	0.21	0.15										
4/9-10	G.S. 2	68.2										4 AM	12 PM	0.039	0.289	6:50PM	(10) 0.36	0.003	
	G.S. 5	14.4										8:40AM	12 PM	0.021	0.106	6:40PM	(10) 0.38	0.002	
4/9-11	G.S. 6	15.2										4:10AM	12Noon	0.066	0.171	6:40PM	(10) 0.33	0.010	
	G.S. 8	762.										72 hours		0.044	2.65	12Noon	(9) 0.36	0.005	
4/10-12	G.S. 2					0.00				48	34	12 PM	3 PM	0.009	0.022	10:30AM	(11)	0.000	
4/10-11	G.S. 5											12 PM	3:40PM	0.001	0.004	12 PM		0.000	
4/11-12	G.S. 6											12Noon	5 PM	0.015	0.016	12 PM	(11)	0.000	
4/10-11	G.S. 8											72 hours		0.009	0.08	12Noon		0.001	
*4/12			2	9:45PM	125	0.10	0.09	0.09	0.08	55	37								
4/13			2	2 AM	330	0.44	0.24	0.24	0.22	53	43								
4/14			2	12:55AM	470	0.18	0.04	0.04	0.04	58	43								
4/14-15			2	2 PM	810	0.43	0.12	0.12	0.08										
4/15																			
4/12-15	G.S. 2	68.2										3 PM	6 PM	0.136	0.955	5:30AM	(13) 1.01	0.091	
	G.S. 5	14.4										10:30PM	4 PM	0.152	0.445	5:20PM	(14) 1.00	0.143	
	G.S. 6	15.2										5 PM	3:20PM	0.191	0.343	8:50P	(14) 0.96	0.210	
4/11-15	G.S. 8	762.										12 PM	6 PM	0.211	12.84	6:10AM	(13) 0.94	0.149	
4/15-20	G.S. 2					0.00				58	32	6 PM	8 AM	0.022	0.031	6 PM	(15)	0.000	
4/15-18	G.S. 5											4 PM	2 PM	0.010	0.007	9:40AM	(17)	0.000	
4/15-19	G.S. 6											3:20PM	12 PM	0.050	0.019	7:10AM	(16)	0.002	
4/15-19	G.S. 8											6 PM	12 PM	0.024	0.42	12 AM	(16)	0.000	
*4/20-21	G.S. 2	68.2	2	10:15AM	555	0.44	0.16	0.16	0.13	61		8 AM	6 PM	0.058	0.34	6:10AM	(20) 0.38	0.023	
	G.S. 5	14.4										10 AM	12 AM	0.062	0.515	5:30PM	(20) 0.38	0.107	
4/19-21	G.S. 6	15.2		10:15AM	52	0.03	0.15	0.08	0.04			12 PM	3 PM	0.106	0.564	5:20PM	(20) 0.33	0.109	
	G.S. 8	762.									37	12 M	6:30PM	0.059	9.74	7:00PM	(20) 0.38	0.063	
*4/21			2	11 AM	15	0.03	0.12	0.12	0.06										
4/21-27	G.S. 2					0.00				71	33	6 PM	12 PM	0.013	0.004	12 PM	(22)	0.000	

* Storms for which graphs were plotted.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: April, May, June, 1937

Sheet 6 of 10 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F.)	Temperature Minimum (degrees F.)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										April 1937 (Continued)									
4/21-27	G.S. 5	14.4										No runoff.							
	G.S. 6	15.2										3 PM	12 PM	0.057	0.019	4:40PM	(21)	0.001	
	G.S. 8	762.										6:30PM	12 PM	0.015	0.64	12 PM	(22)	0.000	
4/28	G.S. 2	68.2	2	10:30AM	120	0.03	0.04	0.02	0.02	42	35	24 hours		0.001	0.008	12:30PM		0.000	
	G.S. 6	15.2										"	"	0.009	0.010	11:10AM		0.000	
	G.S. 8											"	"	0.001	0.03	12 AM		0.000	
4/28-30	G.S. 2					0.00				64	34	12 PM	12Noon	0.002	0.005	12 AM	(29)	0.000	April 28 to May 15, soil moist.
4/28-30	G.S. 6											48 hours		0.008	0.007	12 AM	(29)	0.000	Tillage and planting operations
	G.S. 8											"	"	0.001	0.01	12 AM	(29)	0.000	on G.S. 8 and G.S. 2. Winter
										May 1937									wheat making good cover for
4/30-5/2	G.S. 6					0.00				80	47	12 PM	12Noon	0.002	0.001	9 AM	(2)	0.000	gaging stations 5 and 6.
5/1-2	G.S. 8											48 hours		0.000	0.01				
5/3	G.S. 6					0.00				55	45	1 AM	12 PM	0.000	0.0004	4 AM			
								No other runoff occurred.											
5/9			2	8:50PM	105	0.07	0.06	0.04	0.04	60	40	No runoff							May 15 to June 10, soil moist
5/10			2	4 PM	470	0.28	0.06	0.04	0.04	50	38	"	"						to dry. Wheat begins to head
5/13			2	5:40AM	115	0.13	0.18	0.14	0.10	69	52	"	"						out. Good vegetation on practi-
5/22			2	7 AM	15	0.01	0.06	0.04	0.02	60	47	"	"						cally all fields.
5/24			2	9 PM	90	0.05	0.12	0.08	0.04	68	49	"	"						
5/28			2			0.01	No record												
										June 1937									
6/8			2	6:35PM	85	0.33	1.08	0.68	0.50	70	52								
6/9			2	8:40AM	110	0.07	0.12	0.12	0.12	64	52								
6/10			2	4:50AM	255	0.47	0.39	0.23	0.21	56	46								
			2	9:45AM	105	0.23	0.54	0.34	0.28										
			2	12:52PM	8	0.03	0.30	0.12	0.06										
	G.S. 5	14.4	2									7 AM	12:20PM	0.023	0.362	10 AM	0.71	0.000	
	G.S. 8	762.	2									7:30AM	4 PM	0.003	0.97	10:10AM	0.73	0.002	
							No runoff occurred on other gaging stations or from the last rain of June 10, 1937												
6/11			2	1:45AM	75	0.06	0.12	0.08	0.05	65	46								
6/12			2			0.01		No record		68	49								
6/11-12	G.S. 8											3 PM	12Noon	0.032	24.50	3:45PM	(11)	0.283	Heavy local rain not recorded
6/14			2	4 PM	110	0.09	0.12	0.08	0.06	74	50								at Experiment Station.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: June, July, August, 1937

Sheet 7 of 10 sheets

Date	Watershed Number	Watershed Area (acres)	Gage No.	Rainfall Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F)	Temperature Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										June 1937 (Continued)									
*6/15			2	3:20PM	45	0.08	0.12	0.12	0.12	74	52								
6/16				4:30AM	225	0.10	0.04	0.04	0.04	60	57								
				9:50AM	150	0.24	0.24	0.24	0.22										
6/17				4:30AM	60	0.05	0.05	0.05	0.05	61	41								
6/16	G.S. 5	14.4										11 AM	12:30PM	0.001	0.068	11:20AM	0.47	0.000	
6/16-17	G.S. 8	762										11:50AM	7 PM	0.008	0.80	12Noon	0.46	0.002	
							No runoff G.S. 2 and 6												
*6/18			2	8 AM	435	0.28	0.72	0.40	0.32	58	48								
6/18	G.S. 5	14.4	2	8:00A	435	0.28	0.72	0.40	0.32			2 PM	12 PM	0.012	0.403	2:20PM	0.27	0.002	
6/18-19	G.S. 8	762.	2	8:00A	435	0.28	0.72	0.40	0.32			2 PM	12Noon (6/19)	0.016	6.59	3:10PM	0.26	0.039	
*6/19			2	2:15PM	575	0.53	0.48	0.28	0.21	57	49								
6/19-20	G.S. 5	14.4	2	2:15P	575	0.53	0.48	0.28	0.21			2:50PM	1 AM	0.032	0.34	10:40PM	0.50	0.000	
	G.S. 8	762.	2	2:15P	575	0.53	0.48	0.28	0.21			12M	6 AM	0.016	5.03	11:30PM	0.51	0.002	
6/20			2	12:20PM	445	0.19	0.18	0.08	0.06	71	55								
*6/22			2	6 AM	370	0.66	0.96	0.54	0.32	60	54								
			2	9 PM	145	0.15	0.16	0.16	0.16										
6/22-23	G.S. 2	68.2										11:30PM	5:40AM	0.000	0.02	12:10AM	0.81	0.000	
	G.S. 5	14.4										6:40AM	1:20AM	0.080	0.424	7:50AM	0.73	0.008	
	G.S. 6	15.2										7 AM	12 PM	0.026	0.306	10:40AM	0.78	0.002	
	G.S. 8	762										7 AM	5 PM	0.049	7.53	12:20PM	0.76	0.033	
6/30			2	6:25PM	80	0.14	0.42	0.16	0.12	85	61		No runoff.						
										July 1937									
7/13			2	12:15AM	100	0.07	0.24	0.08	0.06	75	56								July 1 to Aug. 5, soil wet to dry. Wheat ripening.
7/28			2	4 AM	125	0.26	1.68	0.72	0.46	78	61								
7/31			2		145	0.40	0.48	0.40	0.32	80	49								
										August 1937									
8/9			2	3:30AM	105	0.06	0.12	0.06	0.04	73	56								Aug. 5 to Sept. 1, combine-harvesting of all areas.
8/10			2	6 AM	55	0.02	0.06	0.04	0.02	78	57								
8/13			2	1:20AM	45	0.22	1.08	0.48	0.32	78	61								
8/22			2	7:10PM	140	0.15	0.24	0.12	0.10	77	53								
8/31			2	9:30AM	70	0.03	0.06	0.04	0.04	82	51								

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month September, October, November and December, 1937

Sheet 8 of 10 sheets

Date	Watershed		Rainfall							Temperature (degrees F)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										September 1937									
9/4			2	2:55PM	320	0.08	0.09	0.06	0.03	69	46								Sept. 1 to Nov. 1, preparing seedbed and planting fall wheat. Soil dry to very moist.
9/5			2	12:05AM	235	0.16	0.12	0.10	0.06	55	51								
9/6			2	5:55AM	15	0.02	0.08	0.08	0.04	73	48								
										October 1937									Winter wheat coming through ground affords no cover. Stubble left standing 12-16" high.
10/1-2			2	6:50PM	660	0.24	0.12	0.06	0.04	49	45								
10/2			2	11:30AM	355	0.22	0.12	0.08	0.07	47	43								
10/3			2	5:35AM	160	0.08	0.12	0.12	0.10	47	38								
			2	10:30AM	270	0.11	0.24	0.16	0.10										
10/4			2	8:45PM	10	0.02	0.12	0.08	0.04	55	36								
10/16			2	7:45PM	255	0.15	0.12	0.08	0.06	57	47								G.S. 8 crop rotations: Winter wheat - peas and winter wheat - summer fallow. Conditions of watershed average approximately the same from year to year.
10/19			2	6:55PM	60	0.06	0.09	0.06	0.06	63	40								
10/24			2	2:05PM	15	0.02	0.09	0.08	0.04	60	45								
10/29			2	12:15AM	555	0.21	0.12	0.06	0.04	51	47								
10/30			2	7:20PM	445	0.11	0.06	0.04	0.04	46	42								
										November 1937									
11/5			2	2:30PM	90	0.07	0.06	0.06	0.06	47	28								
11/7			2	2:15PM	345	0.33	0.12	0.12	0.10	45	30								
11/8			2	12:55AM	415	0.43	0.12	0.12	0.12	53	37								
11/11			2	1:20PM	310	0.30	0.12	0.10	0.08	48	34								
11/13			2	6:35AM	465	0.47	0.18	0.16	0.14	46	33								
11/14			2	12:50PM	30	0.03	0.09	0.06	0.06	49	38								
10/15			2	11:30AM	15	0.01	0.06	0.04	0.02	44	39								
11/19			2	2:45AM	95	0.04	0.06	0.04	0.04	45	32								
			2	1:10PM	415	0.24	0.12	0.08	0.06										
11/20			2	1:30AM	405	0.12	0.12	0.08	0.07	37	33								
			2	10 AM	25	0.02	0.06	0.06	0.04										
11/22			2	7:15AM	30	0.02	0.04	0.04	0.04	48	41								
11/23			2	12:55AM	80	0.06	0.06	0.06	0.05	50	40								
11/23-24			2	8:05PM	215	0.20	0.18	0.12	0.12	50	34								
11/24-25			2	6:35PM	825	0.32	0.12	0.08	0.08	43	33								
11/25			2	12:55PM	85	0.12	0.24	0.16	0.12	50	33								
11/27			2	3:15AM	305	0.19	0.06	0.04	0.04	46	32								
			2	3:35PM	480	0.36	0.18	0.16	0.16										
11/28			2	9:30AM	15	0.01	0.04	0.04	0.02	47	33								
11/29-12/3	G.S.2	68.2								42	22	120 hours		0.008	0.016	12 AM(30)		0.000	
										December 1937									
12/3			2	8:30AM	15	0.01	0.04	0.04	0.02										

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: December, 19 37

Sheet 9 of 10 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F.)	Temperature Minimum (degrees F.)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										December 1937 (Continued)									Dec. 10-17, soil wet. Freeze
12/4-7	G.S. 2											96 hours		0.001	0.001	12Noon	(5)	0.000	at night, thaw during day.
*12/10			2	12:15AM	435	0.34	0.11	0.11	0.07	43	26								
			2	12Noon	615	0.47	0.28	0.28	0.25										
12/11			2	2:55AM	470	0.21	0.08	0.08	0.08	46	33								All terraces and G.S. 4,
12/11-12			2	12:40PM	200	0.15	0.10	0.10	0.09										soil smooth, drilled to
			2	12:30AM	420	0.02	0.01	0.01	0.01										winter wheat. Wheat 1-2" tall.
12/10-12	G.S. 2	68.2										4 AM	12Noon	0.030	0.159	10:50AM	(10) 1.10	0.002	G.S. 5 and 6, wheat stubble
	G.S. 5	14.4										No runoff							plowed. Rough and trashy in
	G.S. 6	16.2										72 hours		0.012	0.004	Continuous			September.
12/10-13	G.S. 8	762										2 PM	8 AM	0.004	0.19	12 PM	(10) 1.19	0.0002	
*12/10			11	12 AM	460	0.32	0.10	0.10	0.10										
			11	11:52AM	598	0.45	0.28	0.28	0.23										
12/11			11	3:45AM	765	0.35	0.15	0.15	0.12										
12/12			11	2:30AM	60	0.01	0.01	0.01	0.01										
12/10-11	Ter.15	.89										4:30PM	5:10AM	0.034	0.018	9:50PM	(10) 1.10	0.058	
	Ter.16	.82										4:40PM	5 AM	0.050	0.018	10:07PM	(10) 1.08	0.126	
	Ter.17	.92										9:50PM	4:10PM	0.023	0.008	10:14PM	(10) 1.11	0.010	
	Ter.18	1.18										No record		0.003			1.10	0.002	Measured in silt box.
12/10	G.S. 4	2.33										2:35PM	10:45PM	0.040	0.16	9:45PM	1.09	0.188	
12/12-13	G.S. 2	68.2				0.00				42	33	12Noon	12 PM	0.005	0.016	12Noon	(11)	0.000	
12/14			2	12:15PM	45	0.06	0.12	0.08	0.06	43	35	No runoff on terraces and other gaging stations.							
12/13-15	G.S. 2	68.2										12 PM	10 PM	(15) 0.004	0.008	Continuous runoff		0.000	
*12/15-16			2	10:50PM	175	0.06	0.06	0.04	0.04										
12/16			2	5:10AM	372	0.14	0.06	0.06	0.06	41	37								
12/17			2	7:15AM	190	0.27	0.14	0.14	0.14	48	33								
12/15-17	G.S. 2	68.2	2									10 PM	12 PM	0.018	0.184	10 AM	(17) 0.45	0.0002	
12/17	G.S. 8	762.	2									9 AM	12 PM	0.001	0.14	11:10AM	0.47	0.000	
												No runoff G.S. 5 and 6							
12/15-16			11	10:55PM	167	0.05	0.06	0.05	0.04										
12/16			11	5:15AM	280	0.14	0.08	0.08	0.08										
12/17			11	7 AM	210	0.27	0.14	0.14	0.12										
12/16-17	Ter.15	0.89										7:45AM	2:25PM	0.044	0.024	9:15AM	(17) 0.42	0.062	Ter. 16 12/16-17/37
	Ter.16	0.82										7:45AM	2:15PM	0.010	No record		0.45	0.235	Total runoff and soil loss
	Ter.17	0.92										7:40AM	10:55AM	0.081	0.054	9:15AM	(17) 0.38	0.073	possibly low due to flume
	Ter.18	1.18												0.008				0.004	silting up. Measured in silt
	G.S. 4	2.33										7:25AM	10:35AM	0.145	0.23	9:10AM	(17) 0.34	0.554	box.

* Storms for which graphs were prepared.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

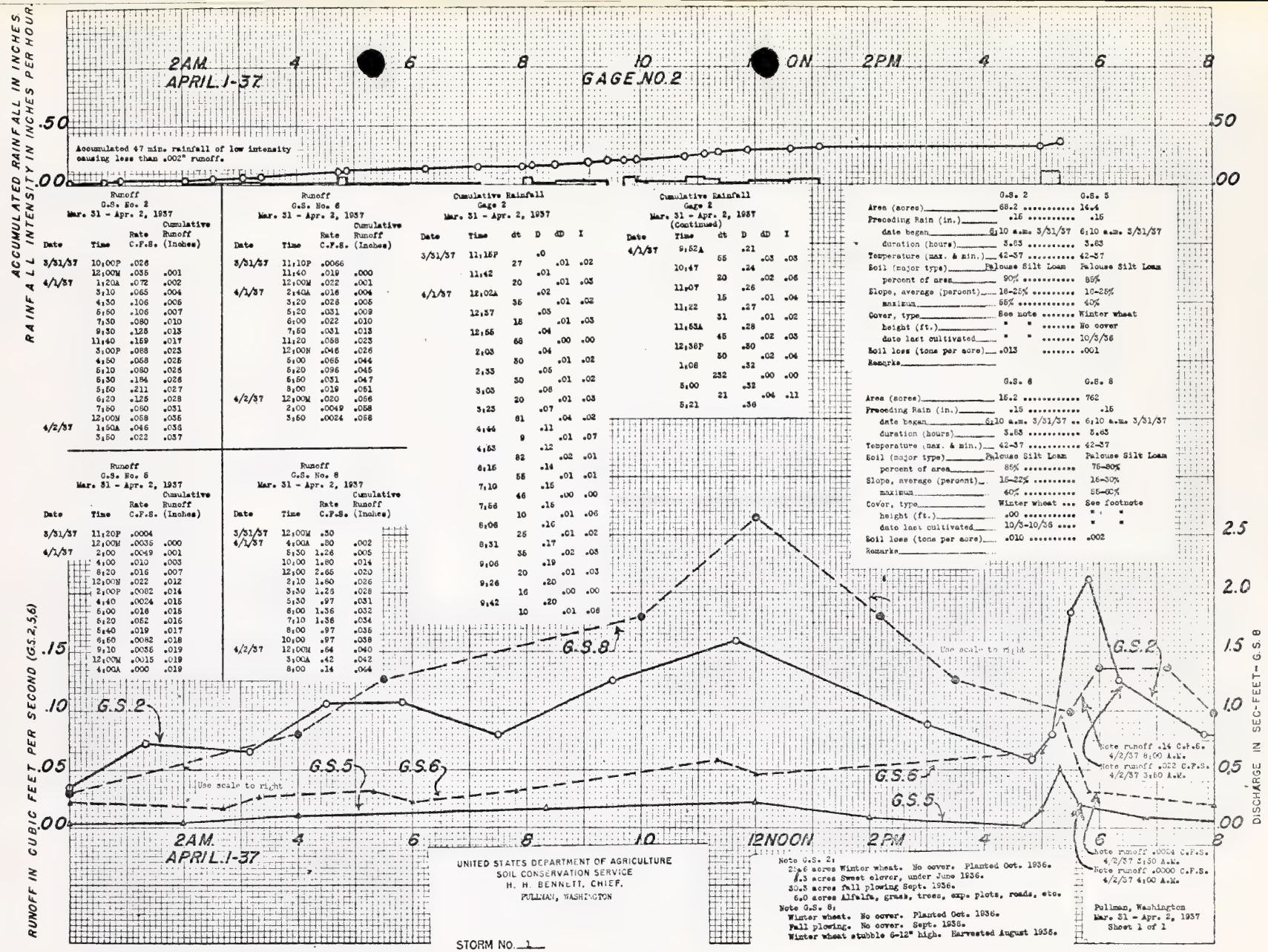
Month: December, 1937

Sheet 10 of 10 sheets

Date (1)	Watershed Number (2)	Watershed Area (acres) (3)	Rainfall Gage No. (4)	Rainfall Began (hour) (5)	Rainfall Duration (minutes) (6)	Rainfall Amount (inches) (7)	Maximum Intensity 5 minutes (inches per hour) (8)	Maximum Intensity 15 minutes (inches per hour) (9)	Maximum Intensity 30 minutes (inches per hour) (10)	Temperature Maximum (11)	Temperature Minimum (11)	Run-off Began (hour) (12)	Run-off Ended (hour) (13)	Run-off Amount (inches) (14)	Maximum Rate Cu. ft. sec. (15)	Maximum Rate Time (16)	Rainfall Minus Run-off (inches) (17)	Silt Loss (tons per acre) (18)	Condition of Watershed (19)
December 1937 (Continued)																			
12/18-22	G.S. 2	68.2	2			0.000				48	26	24 hours		0.011	0.022	1:30PM	(18)	0.000	Soil not covered with snow freezes at night and thaws in day.
12/23			Snow			0.03				26	20								
12/24				"		0.02				32	19								
12/25				"		0.16				42	24								Snow accumulating until snow and rain of Dec. 26-27.
12/26-27			Rain and snow			1.87				41	27								
12/23-27	G.S. 2											120 hours		0.007	0.026	6 AM	(23)	0.000	
12/27	G.S. 8									43	28	24 "		0.002	0.03	12Noon		0.000	
12/29			2	3:05PM	180	0.25	0.18	0.16	0.14										
12/30			2	2:05AM	275	0.21	0.42	0.28	0.15										
12/28-31	G.S. 2	68.2				0.00				45	33	96 hours		0.222	0.564	7:10AM	(30)	0.013	
	G.S. 6	15.2										" "		0.352	0.18	8 AM	(30)	0.223	
	G.S. 8	762.0										" "		0.064	3.77	8 AM	(30)	0.020	
12/26-31	Ter. 15	0.89										12 PM	8 PM	0.673	0.08	5 PM	(30)	1.441	
12/26-31	Ter. 16	0.82										12 PM	6 PM	2.085	0.12	5:20PM	(30)	2.801	
12/27	Ter. 17	0.92										12Noon	4:30PM	0.366	0.038	5:10PM	(30)	0.062	
	Ter. 18	1.18										No runoff.							
	G.S. 4	2.33										1:50PM	7 PM	2.891	1.07	4:45PM	(30)	14.112	

G.S. 5 July 1 - Dec. 31, no runoff.

Note G.S. 2, cover was as follows:
30.9 acres of spring and winter wheat immediately above flume.
24.3 acres of peas.
7.0 acres of potatoes
6.0 acres of alfalfa, grass, trees, experimental plots, road, etc.



Runoff
G.S. No. 2
Mar. 31 - Apr. 2, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/31/37	10:00P	.026	
	12:00M	.035	.001
4/1/37	1:20A	.072	.002
	3:10	.065	.004
	4:30	.106	.006
	5:50	.106	.007
	7:30	.080	.010
	9:30	.125	.013
	11:40	.159	.017
	3:00P	.088	.023
	4:50	.058	.025
	5:10	.080	.026
	5:30	.184	.026
	5:50	.211	.027
	6:20	.125	.028
	7:50	.080	.031
	12:00M	.058	.035
4/2/37	1:50A	.046	.036
	3:50	.022	.037

Runoff
G.S. No. 6
Mar. 31 - Apr. 2, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/31/37	11:10P	.0066	
	11:40	.019	.000
	12:00M	.022	.001
4/1/37	2:40A	.016	.004
	3:20	.028	.005
	5:20	.031	.009
	6:00	.022	.010
	7:50	.031	.013
	11:20	.058	.023
	12:00N	.046	.026
	5:00	.065	.044
	5:20	.096	.045
	5:50	.031	.047
	8:00	.019	.051
4/2/37	12:00M	.020	.056
	2:00	.0049	.058
	3:60	.0024	.058

Cumulative Rainfall
Gage 2
Mar. 31 - Apr. 2, 1937

Date	Time	dt	D	dD	I
3/31/37	11:15P		.0		
		27		.01	.02
	11:42		.01		
		20		.01	.03
4/1/37	12:02A		.02		
		35		.01	.02
	12:37		.03		
		18		.01	.03
	12:55		.04		
		68		.00	.00
	2:03		.04		
		30		.01	.02
	2:33		.05		
		30		.01	.02
	3:03		.06		
		20		.01	.03
	3:23		.07		
		81		.04	.02
	4:44		.11		
		9		.01	.07
	4:53		.12		
		82		.02	.01
	6:15		.14		
		55		.01	.01
	7:10		.15		
		46		.00	.00
	7:56		.16		
		10		.01	.06
	8:06		.16		
		25		.01	.02
	8:31		.17		
		35		.02	.03
	9:06		.19		
		20		.01	.03
	9:26		.20		
		16		.00	.00
	9:42		.20		
		10		.01	.06

Cumulative Rainfall
Gage 2
Mar. 31 - Apr. 2, 1937
(Continued)

Date	Time	dt	D	dD	I
4/1/37	9:52A		.21		
		55		.03	.03
	10:47		.24		
		20		.02	.06
	11:07		.26		
		15		.01	.04
	11:22		.27		
		31		.01	.02
	11:53A		.28		
		45		.02	.03
	12:38P		.30		
		30		.02	.04
	1:08		.32		
		232		.00	.00
	5:00		.32		
		21		.04	.11
	5:21		.36		

Runoff
G.S. No. 6
Mar. 31 - Apr. 2, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/31/37	11:20P	.0004	
	12:00M	.0035	.000
4/1/37	2:00	.0049	.001
	4:00	.010	.003
	8:20	.016	.007
	12:00N	.022	.012
	2:00P	.0082	.014
	4:40	.0024	.015
	5:00	.016	.015
	5:20	.052	.016
	5:40	.019	.017
	6:60	.0082	.018
	9:10	.0036	.019
	12:00M	.0015	.019
	4:00A	.000	.019

Runoff
G.S. No. 8
Mar. 31 - Apr. 2, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
3/31/37	12:00M	.30	
4/1/37	4:00A	.80	.002
	5:30	1.26	.005
	10:00	1.80	.014
	12:00	2.65	.020
	2:10	1.80	.026
	3:30	1.26	.028
	5:50	.97	.031
	8:00	1.36	.032
	7:10	1.36	.034
	8:00	.97	.035
	10:00	.97	.038
4/2/37	12:00M	.64	.040
	3:00A	.42	.042
	8:00	.14	.044

	G.S. 2	G.S. 5
Area (acres)	68.2	14.4
Preceding Rain (in.)	.16	.16
date began	6:10 a.m. 3/31/37	6:10 a.m. 3/31/37
duration (hours)	3.83	3.83
Temperature (max. & min.)	42-37	42-37
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	10-25%
maximum	55%	40%
Cover, type	See note	Winter wheat
height (ft.)	" "	No cover
date last cultivated	" "	10/3/36
Soil loss (tons per acre)	.013	.001
Remarks		

	G.S. 6	G.S. 8
Area (acres)	16.2	762
Preceding Rain (in.)	.16	.16
date began	6:10 a.m. 3/31/37	6:10 a.m. 3/31/37
duration (hours)	3.83	3.83
Temperature (max. & min.)	42-37	42-37
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	15-22%	15-30%
maximum	40%	55-60%
Cover, type	Winter wheat	See footnote
height (ft.)	.00	" "
date last cultivated	10/3-10/36	" "
Soil loss (tons per acre)	.010	.002
Remarks		

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

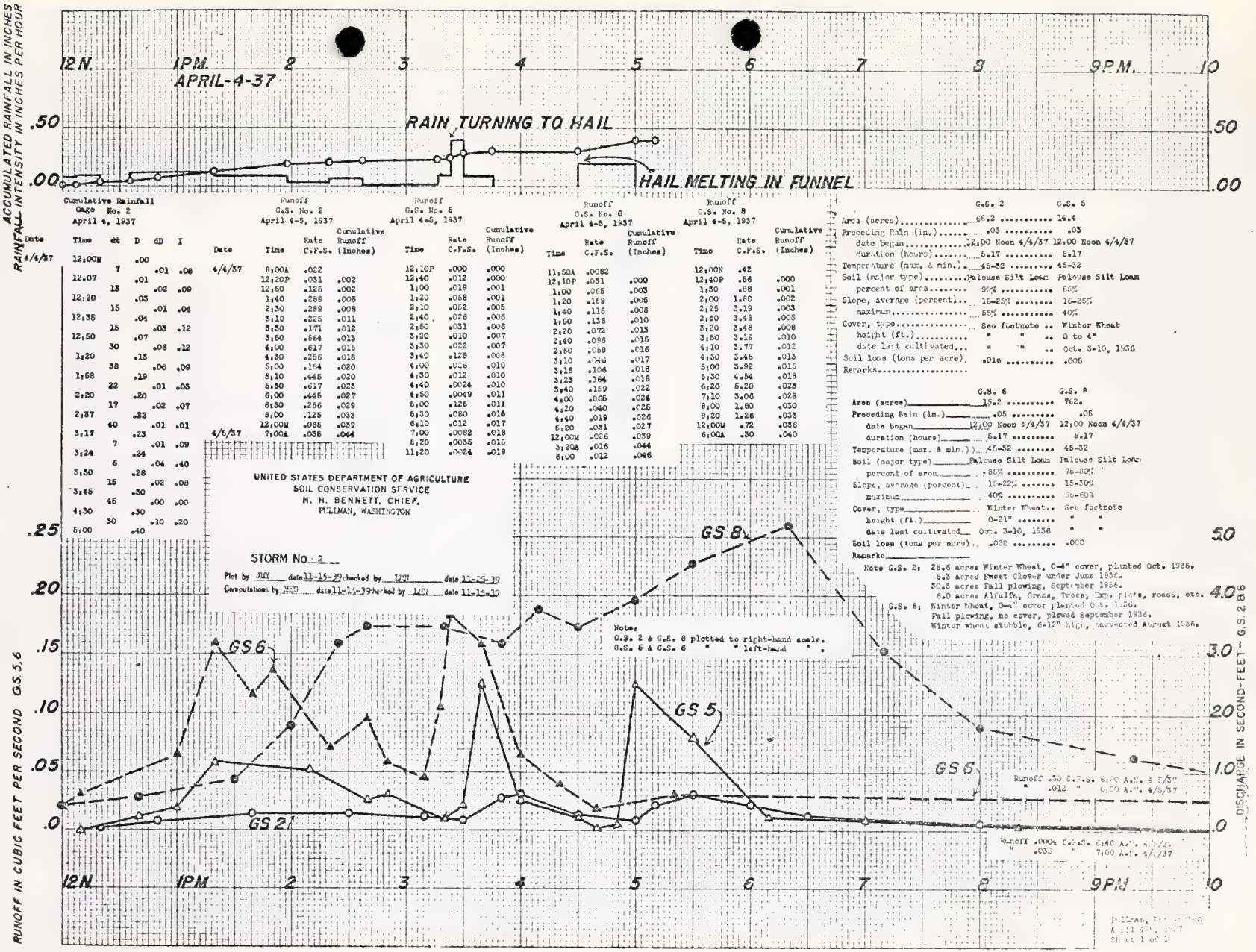
Note G.S. 2:
25.6 acres Winter wheat. No cover. Planted Oct. 1936.
7.3 acres Sweet clover, under June 1936.
30.3 acres fall plowing Sept. 1936.
5.0 acres Alfalfa, grass, trees, exp. plots, roads, etc.

Note G.S. 6:
Winter wheat. No cover. Planted Oct. 1936.
Fall plowing. No cover. Sept. 1936.
Winter wheat stubble 6-12" high. Harvested August 1936.

Pullman, Washington
Mar. 31 - Apr. 2, 1937
Sheet 1 of 1

STORM NO. 1

Plot by JOD date 11-7-39 checked by LHN date 11-8-39
Computations by JOY date 11-6-39 checked by LHN date 11-7-39



Cumulative Rainfall
Gage No. 2
April 4, 1937

Date	Time	dt	D	dD	I
4/4/37	12:00N		.00		
		7		.01	.08
	12:07		.01		
		13		.02	.09
	12:20		.03		
		15		.01	.04
	12:35		.04		
		15		.03	.12
	12:50		.07		
		30		.08	.12
	1:20		.15		
		38		.06	.09
	1:58		.19		
		22		.01	.03
	2:20		.20		
		17		.02	.07
	2:37		.22		
		40		.01	.01
	3:17		.23		
		7		.01	.09
	3:24		.24		
		6		.04	.40
	3:30		.28		
		15		.02	.08
	3:45		.30		
		45		.00	.00
	4:30		.30		
		30		.10	.20
	5:00		.40		

Runoff
G.S. No. 2
April 4-5, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/4/37	8:00A	.022	
	12:20P	.031	.002
	12:50	.125	.002
	1:40	.289	.005
	2:30	.289	.008
	3:10	.225	.011
	3:30	.171	.012
	3:50	.564	.013
	4:00	.617	.015
	4:30	.256	.018
	5:00	.184	.020
	5:10	.445	.020
	5:30	.617	.023
	6:00	.445	.027
	6:30	.256	.029
	8:00	.125	.033
	12:00M	.065	.039
4/5/37	7:00A	.036	.044

Runoff
G.S. No. 5
April 4-5, 1937

Time	Rate C.F.S.	Cumulative Runoff (Inches)
12:10P	.000	.000
12:40	.012	.000
1:00	.019	.001
1:20	.058	.001
2:10	.062	.005
2:40	.026	.006
2:50	.031	.006
3:20	.010	.007
3:30	.022	.007
3:40	.125	.008
4:00	.036	.010
4:30	.012	.010
4:40	.0024	.010
4:50	.0049	.011
5:00	.125	.011
5:30	.080	.016
6:10	.012	.017
7:00	.0082	.018
8:20	.0035	.018
11:20	.0024	.019

Runoff
G.S. No. 6
April 4-5, 1937

Time	Rate C.F.S.	Cumulative Runoff (Inches)
11:50A	.0082	
12:10P	.031	.000
1:00	.065	.003
1:20	.159	.005
1:40	.116	.008
1:50	.136	.010
2:20	.072	.013
2:40	.096	.015
2:50	.068	.016
3:10	.040	.017
3:18	.106	.018
3:23	.184	.018
3:40	.159	.022
4:00	.065	.024
4:20	.040	.026
4:40	.019	.026
5:20	.031	.027
12:00M	.026	.039
3:20A	.016	.044
6:00	.012	.046

Runoff
G.S. No. 8
April 4-5, 1937

Time	Rate C.F.S.	Cumulative Runoff (Inches)
12:00N	.42	
12:40P	.56	.000
1:30	.88	.001
2:00	1.80	.002
2:25	3.19	.003
2:40	3.48	.005
3:20	3.48	.008
3:50	3.19	.010
4:10	3.77	.012
4:30	3.48	.013
5:00	3.92	.015
5:30	4.54	.018
6:20	5.20	.023
7:10	3.00	.028
8:00	1.80	.030
9:20	1.26	.033
12:00M	.72	.036
6:00A	.30	.040

	G.S. 2	G.S. 5
Area (acres)	26.2	14.4
Preceding Rain (in.)	.03	.03
date began	12:00 Noon 4/4/37	12:00 Noon 4/4/37
duration (hours)	5.17	5.17
Temperature (max. & min.)	45-32	45-32
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-25%
maximum	55%	40%
Cover, type	See footnote	Winter Wheat
height (ft.)	" "	0 to 4"
date last cultivated	" "	Oct. 3-10, 1936
Soil loss (tons per acre)	.016	.005
Remarks		

	G.S. 6	G.S. 8
Area (acres)	15.2	762.
Preceding Rain (in.)	.05	.05
date began	12:00 Noon 4/4/37	12:00 Noon 4/4/37
duration (hours)	5.17	5.17
Temperature (max. & min.)	45-32	45-32
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	16-22%	15-30%
maximum	40%	50-60%
Cover, type	Winter Wheat	See footnote
height (ft.)	0-21"	" "
date last cultivated	Oct. 3-10, 1936	" "
Soil loss (tons per acre)	.020	.000
Remarks		

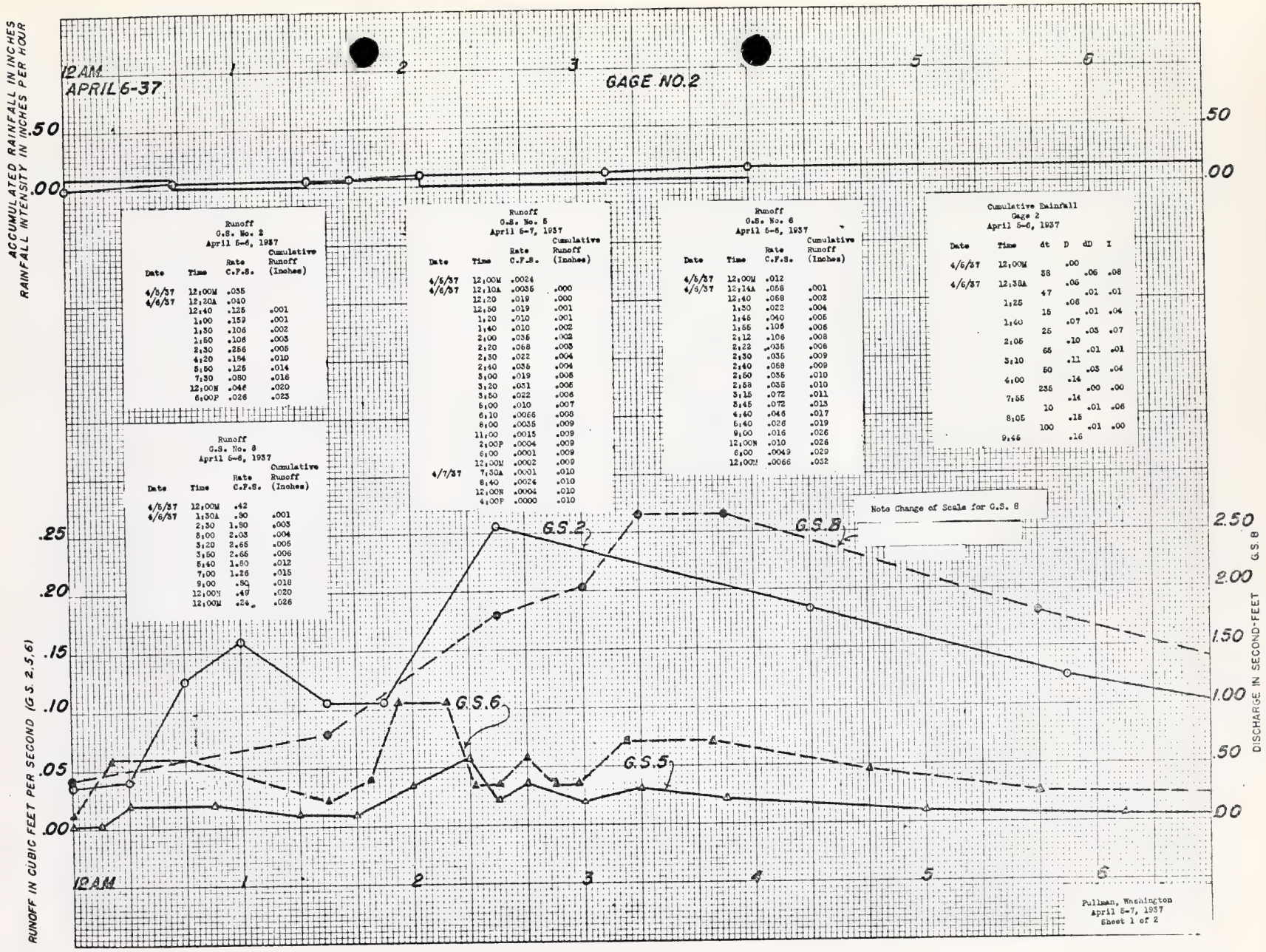
Note G.S. 2: 26.6 acres Winter Wheat, 0-4" cover, planted Oct. 1936.
6.3 acres Sweet Clover under June 1936.
30.3 acres Fall plowing, September 1936.
6.0 acres Alfalfa, Grass, Trees, Exp. plots, roads, etc.

G.S. 8: Winter Wheat, 0-4" cover planted Oct. 1936.
Fall plowing, no cover, plowed September 1936.
Winter wheat stubble, 6-12" high, harvested August 1936.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 2

Plot by JDY date 11-15-39 checked by LJW date 11-28-39
Computations by WCO date 11-14-39 checked by LJW date 11-15-39



Runoff
G.S. No. 2
April 5-6, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/5/37	12:00M	.035	
4/6/37	12:20A	.040	
	12:40	.125	.001
	1:00	.159	.001
	1:30	.106	.002
	1:50	.108	.003
	2:30	.256	.005
	4:20	.194	.010
	5:50	.125	.014
	7:30	.080	.016
	12:00N	.046	.020
	6:00P	.026	.023

Runoff
G.S. No. 5
April 5-7, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/5/37	12:00M	.0024	
4/6/37	12:10A	.0035	.000
	12:20	.019	.000
	12:50	.019	.001
	1:20	.010	.001
	1:40	.010	.002
	2:00	.036	.002
	2:20	.068	.003
	2:30	.022	.004
	2:40	.035	.004
	3:00	.019	.005
	3:20	.031	.005
	3:50	.022	.006
	5:00	.010	.007
	6:10	.0066	.008
	8:00	.0035	.009
	11:00	.0015	.009
	2:00P	.0004	.009
	6:00	.0001	.009
	12:00M	.0002	.009
4/7/37	7:30A	.0001	.010
	8:40	.0024	.010
	12:00N	.0004	.010
	4:00P	.0000	.010

Runoff
G.S. No. 6
April 5-6, 1937

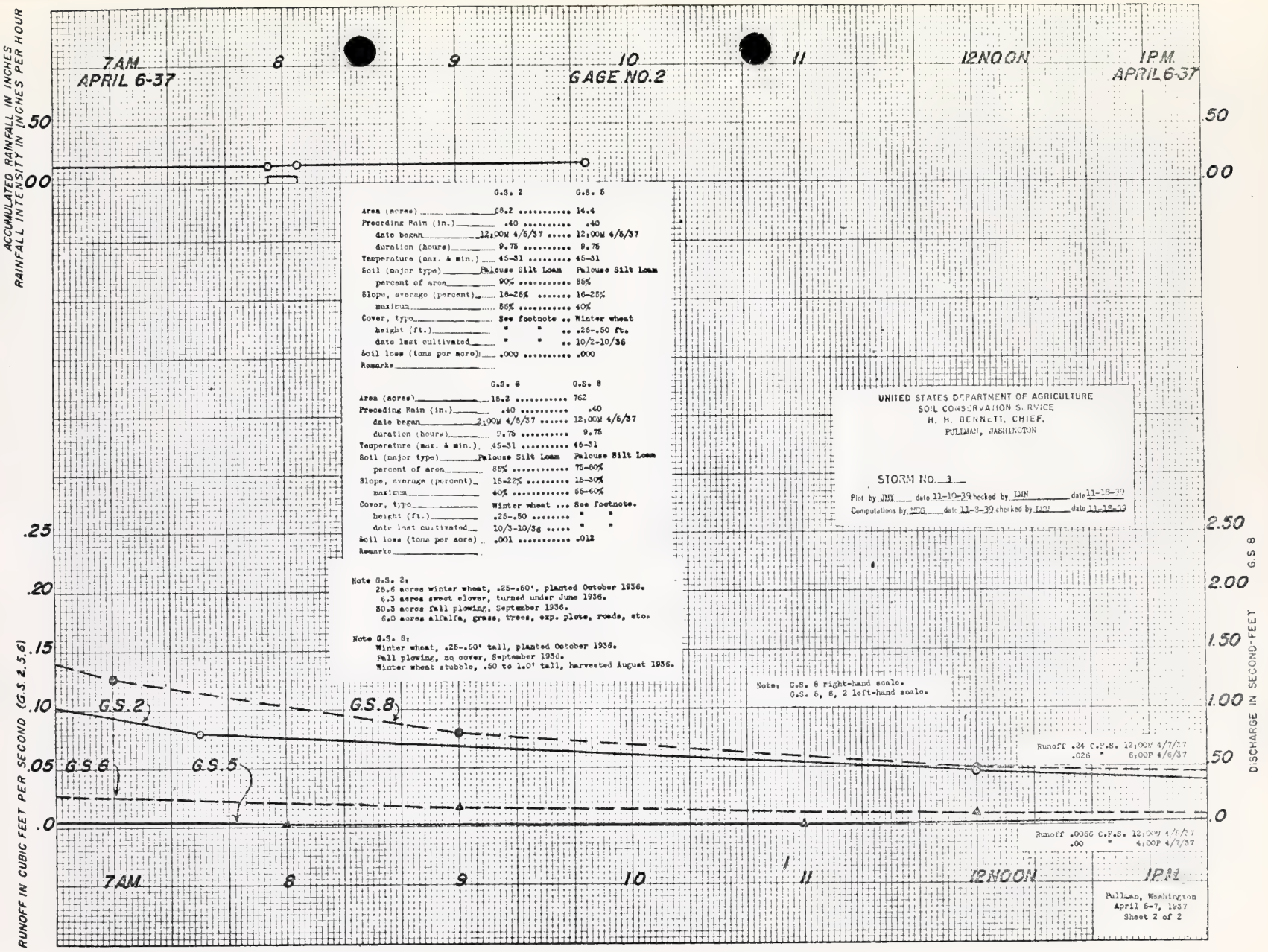
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/5/37	12:00M	.012	
4/6/37	12:14A	.058	.001
	12:40	.068	.002
	1:30	.022	.004
	1:45	.040	.005
	1:55	.108	.006
	2:12	.106	.008
	2:22	.035	.008
	2:30	.035	.009
	2:40	.068	.009
	2:50	.035	.010
	2:58	.035	.010
	3:15	.072	.011
	3:45	.072	.013
	4:40	.046	.017
	5:40	.026	.019
	9:00	.016	.026
	12:00N	.010	.026
	6:00	.0049	.029
	12:00M	.0066	.032

Runoff
G.S. No. 8
April 5-6, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/5/37	12:00M	.42	
4/6/37	1:30A	.80	.001
	2:30	1.80	.003
	8:00	2.03	.004
	3:20	2.66	.005
	3:50	2.66	.006
	5:40	1.80	.012
	7:00	1.26	.015
	9:00	.80	.018
	12:00N	.49	.020
	12:00M	.24	.026

Cumulative Rainfall
Gage 2
April 5-6, 1937

Date	Time	dt	D	dD	I
4/6/37	12:00M		.00		
		38		.06	.08
4/6/37	12:38A		.06		
		47		.01	.01
	1:25		.06		
		15		.01	.04
	1:40		.07		
		25		.03	.07
	2:05		.10		
		65		.01	.01
	3:10		.11		
		50		.03	.04
	4:00		.14		
		235		.00	.00
	7:55		.14		
		10		.01	.06
	8:05		.15		
		100		.01	.00
	9:45		.16		



	G.S. 2	G.S. 5
Area (acres)	68.2	14.4
Preceding Rain (in.)	.40	.40
date began	12:00M 4/5/37	12:00M 4/5/37
duration (hours)	9.75	9.75
Temperature (max. & min.)	45-31	45-31
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-25%
maximum	55%	40%
Cover, type	See footnote	Winter wheat
height (ft.)	" "	.25-.50 ft.
date last cultivated	" "	10/2-10/36
Soil loss (tons per acre)	.000	.000
Remarks		

	G.S. 6	G.S. 8
Area (acres)	15.2	762
Preceding Rain (in.)	.40	.40
date began	2:00M 4/5/37	12:00M 4/5/37
duration (hours)	9.75	9.75
Temperature (max. & min.)	45-31	45-31
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	15-22%	15-30%
maximum	40%	55-60%
Cover, type	Winter wheat	See footnote.
height (ft.)	.25-.50	" "
date last cultivated	10/3-10/36	" "
Soil loss (tons per acre)	.001	.012
Remarks		

Note G.S. 2:
25.6 acres winter wheat, .25-.50', planted October 1936.
6.3 acres sweet clover, turned under June 1936.
30.3 acres fall plowing, September 1936.
6.0 acres alfalfa, grass, trees, exp. plots, roads, etc.

Note G.S. 8:
Winter wheat, .25-.50' tall, planted October 1936.
Fall plowing, no cover, September 1936.
Winter wheat stubble, .50 to 1.0' tall, harvested August 1936.

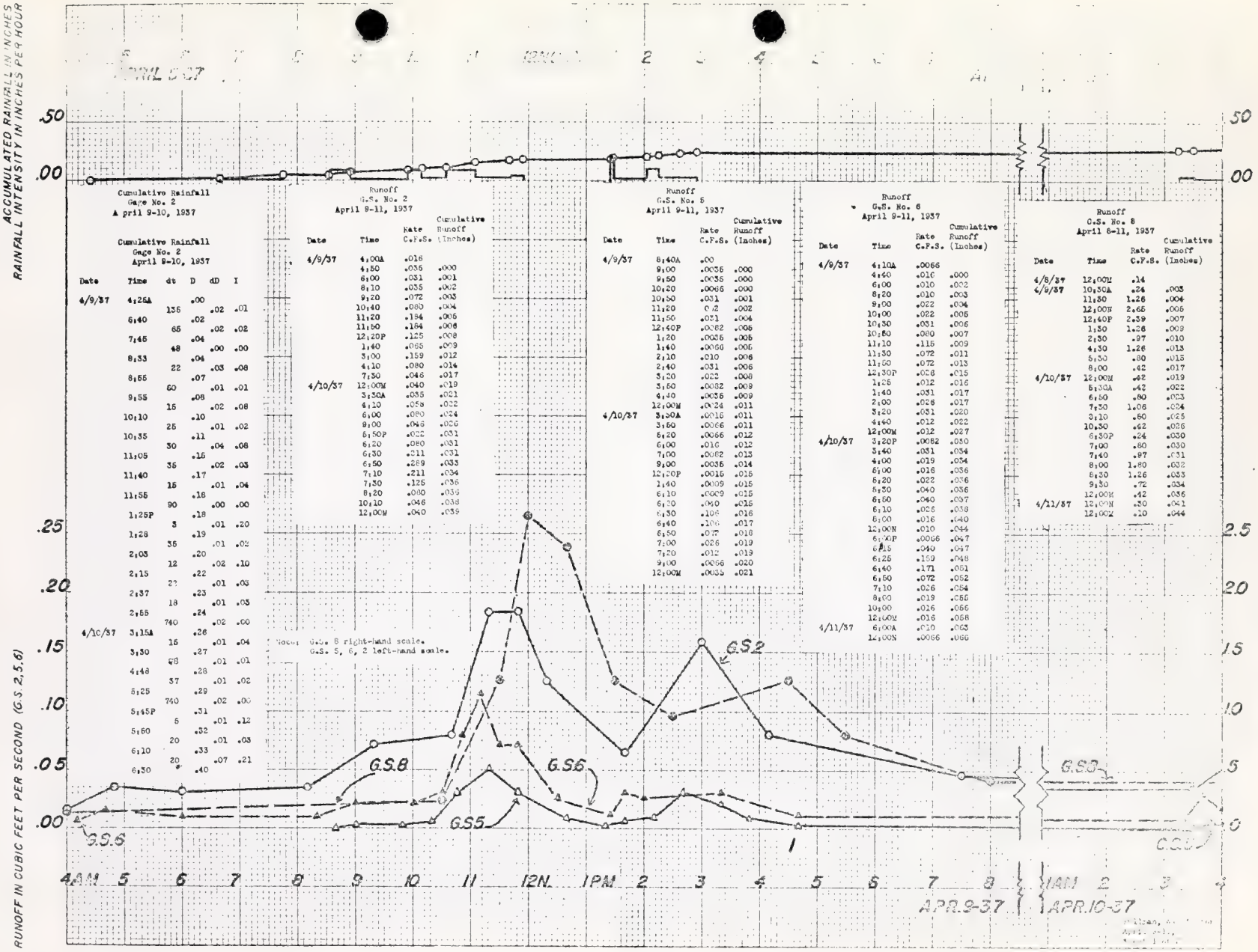
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 3

Plot by JMX date 11-10-39 checked by LMN date 11-18-39
Computations by MDG date 11-3-39 checked by LMN date 11-18-39

Note: G.S. 8 right-hand scale.
G.S. 5, 6, 2 left-hand scale.

Pullman, Washington
April 5-7, 1937
Sheet 2 of 2



Cumulative Rainfall
Gage No. 2
April 9-10, 1937

Date	Time	dt	D	dD	I
4/9/37	4:25A		.00		
		135		.02	.01
	6:40		.02		
		65		.02	.02
	7:45		.04		
		48		.00	.00
	8:33		.04		
		22		.03	.08
	8:55		.07		
		60		.01	.01
	9:55		.08		
		15		.02	.08
	10:10		.10		
		25		.01	.02
	10:35		.11		
		30		.04	.08
	11:05		.15		
		35		.02	.03
	11:40		.17		
		15		.01	.04
	11:55		.18		
		90		.00	.00
	1:25P		.18		
		3		.01	.20
	1:28		.19		
		35		.01	.02
	2:03		.20		
		12		.02	.10
	2:15		.22		
		22		.01	.03
	2:37		.23		
		18		.01	.03
	2:55		.24		
		740		.02	.00
4/10/37	3:15A		.26		
		15		.01	.04
	3:30		.27		
		68		.01	.01
	4:48		.28		
		37		.01	.02
	5:25		.29		
		740		.02	.00
	5:45P		.31		
		5		.01	.12
	5:50		.32		
		20		.01	.03
	6:10		.33		
		20		.07	.21
	6:30		.40		

Note: G.S. 8 right-hand scale.
G.S. 5, 6, 2 left-hand scale.

Runoff
G.S. No. 2
April 9-11, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/9/37	4:00A	.016	
	4:50	.035	.000
	6:00	.031	.001
	8:10	.035	.002
	9:20	.072	.003
	10:40	.080	.004
	11:20	.184	.006
	11:50	.164	.006
	12:20P	.125	.008
	1:40	.085	.009
	3:00	.159	.012
	4:10	.080	.014
	7:30	.046	.017
4/10/37	12:00M	.040	.019
	3:30A	.035	.021
	4:10	.058	.022
	6:00	.080	.024
	9:00	.046	.026
	5:50P	.022	.031
	6:20	.080	.031
	6:30	.111	.031
	6:50	.289	.033
	7:10	.211	.034
	7:30	.125	.036
	8:20	.080	.036
	10:10	.046	.038
	12:00M	.040	.039

Runoff
G.S. No. 5
April 9-11, 1937

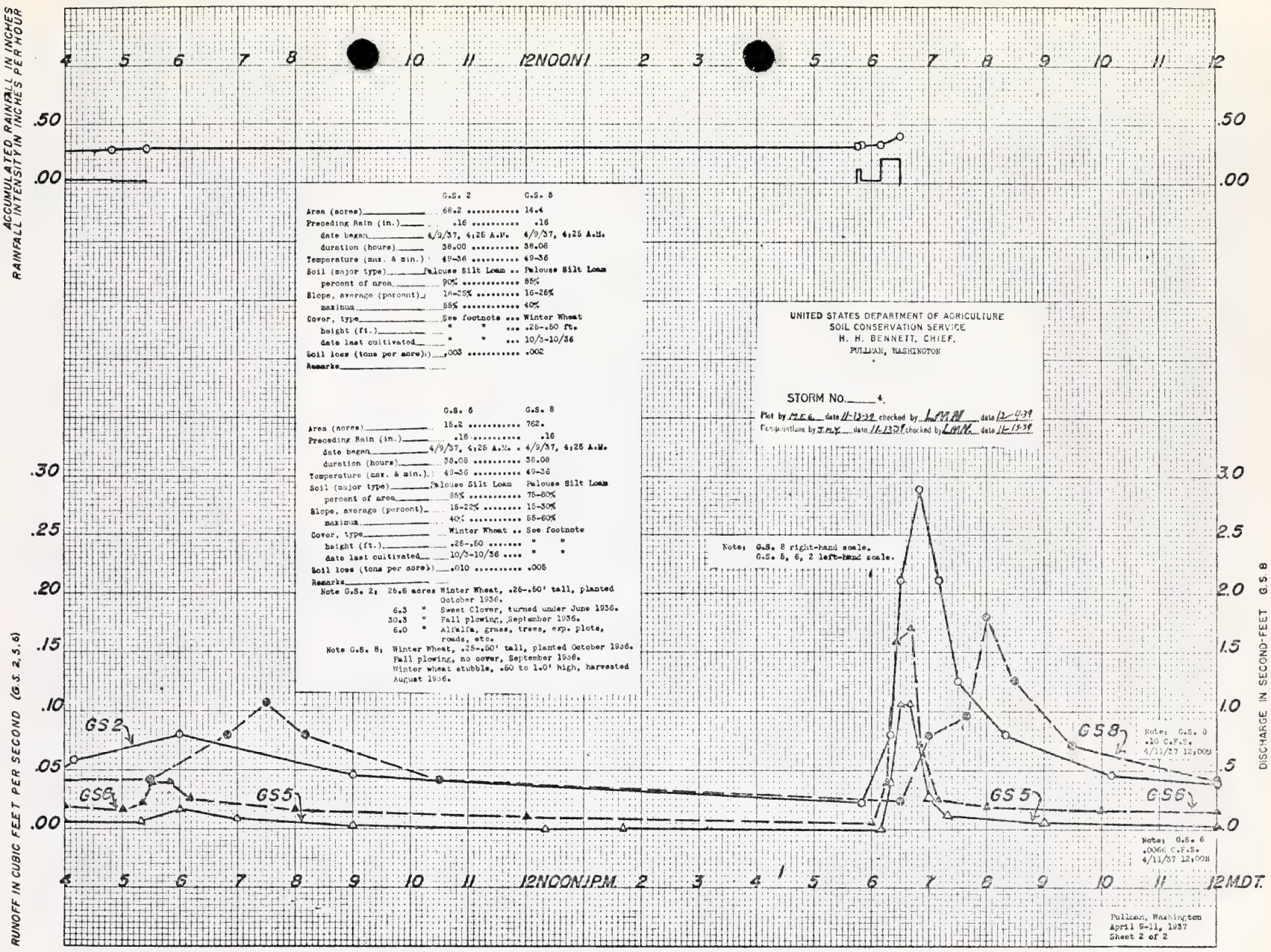
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/9/37	8:40A	.00	
	9:00	.0036	.000
	9:50	.0036	.000
	10:20	.0066	.000
	10:50	.031	.001
	11:20	.0[illegible]2	.002
	11:50	.031	.004
	12:40P	.0062	.006
	1:20	.0036	.006
	1:40	.0066	.006
	2:10	.010	.006
	2:40	.031	.006
	3:20	.022	.008
	3:50	.0082	.009
	4:40	.0036	.009
	12:00M	.0024	.011
4/10/37	3:30A	.0016	.011
	3:50	.0066	.011
	5:20	.0066	.012
	6:00	.016	.012
	7:00	.0082	.013
	9:00	.0036	.014
	12:20P	.0016	.015
	1:40	.0009	.015
	6:10	.0009	.015
	6:20	.040	.015
	6:30	.106	.016
	6:40	.106	.017
	6:50	.077	.018
	7:00	.026	.019
	7:20	.012	.019
	9:00	.0066	.020
	12:00M	.0035	.021

Runoff
G.S. No. 6
April 9-11, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/9/37	4:10A	.0066	
	4:40	.010	.000
	6:00	.010	.002
	8:20	.010	.003
	9:00	.022	.004
	10:00	.022	.005
	10:30	.031	.006
	10:50	.080	.007
	11:10	.115	.009
	11:30	.072	.011
	11:50	.072	.013
	12:30P	.026	.015
	1:25	.012	.016
	1:40	.031	.017
	2:00	.026	.017
	3:20	.031	.020
	4:40	.012	.022
	12:00M	.012	.027
4/10/37	3:20P	.0082	.030
	3:40	.031	.034
	4:00	.019	.034
	5:00	.016	.036
	5:20	.022	.036
	5:30	.040	.036
	6:50	.040	.037
	6:10	.026	.038
	8:00	.016	.040
	12:00N	.010	.044
	6:00P	.0066	.047
	6:15	.040	.047
	6:25	.159	.048
	6:40	.171	.051
	6:50	.072	.052
	7:10	.026	.054
	8:00	.019	.055
	10:00	.016	.056
	12:00M	.016	.058
4/11/37	6:00A	.010	.063
	12:00N	.0066	.066

Runoff
G.S. No. 8
April 8-11, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/8/37	12:00M	.14	
4/9/37	10:30A	.24	.003
	11:30	1.26	.004
	12:00N	2.65	.006
	12:40P	2.39	.007
	1:30	1.26	.009
	2:30	.97	.010
	4:30	1.26	.013
	5:50	.80	.015
	8:00	.42	.017
4/10/37	12:00M	.42	.019
	5:30A	.42	.022
	6:50	.80	.023
	7:30	1.06	.024
	9:10	.60	.025
	10:30	.42	.026
	6:30P	.24	.030
	7:00	.80	.030
	7:40	.97	.031
	8:00	1.80	.032
	8:30	1.26	.033
	9:30	.72	.034
	12:00M	.42	.036
4/11/37	12:00N	.30	.041
	12:00M	.10	.044



	G.S. 2	G.S. 5
Area (acres)	68.2	14.4
Preceding Rain (in.)	.16	.16
date began	4/9/37, 4:25 A.M.	4/9/37, 4:25 A.M.
duration (hours)	38.00	38.08
Temperature (max. & min.)	49-36	49-36
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-26%
maximum	55%	40%
Cover, type	See footnote	Winter Wheat
height (ft.)	" "	.26-.50 ft.
date last cultivated	" "	10/3-10/36
Soil loss (tons per acre)	.003	.002
Remarks		

	G.S. 6	G.S. 8
Area (acres)	15.2	762.
Preceding Rain (in.)	.16	.16
date began	4/9/37, 4:25 A.M.	4/9/37, 4:25 A.M.
duration (hours)	38.08	38.08
Temperature (max. & min.)	49-36	49-36
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	16-22%	15-30%
maximum	40%	55-60%
Cover, type	Winter Wheat	See footnote
height (ft.)	.26-.50	" "
date last cultivated	10/3-10/36	" "
Soil loss (tons per acre)	.010	.005
Remarks		

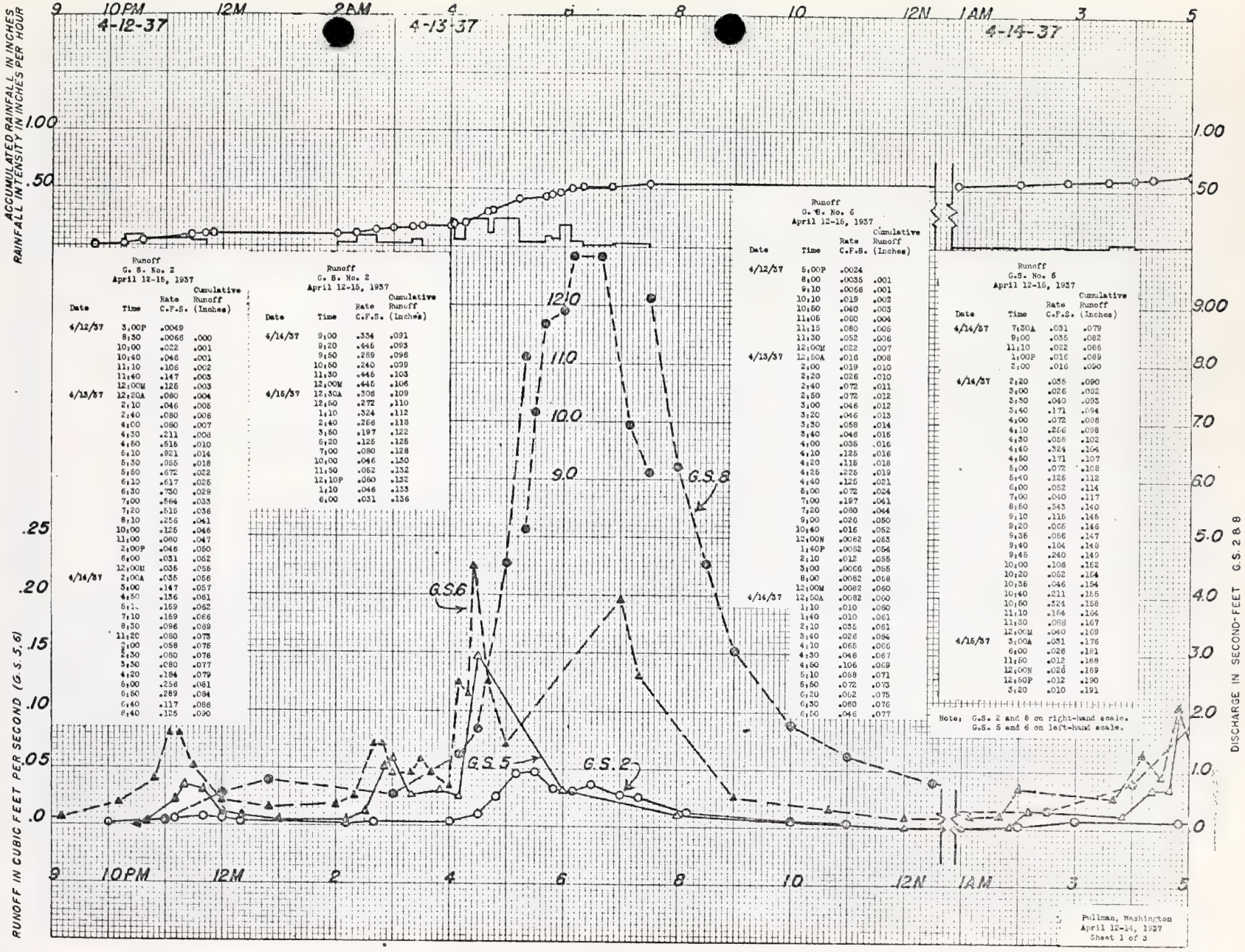
Note G.S. 2: 26.6 acres Winter Wheat, .26-.50' tall, planted October 1936.
6.3 " Sweet Clover, turned under June 1936.
30.3 " Fall plowing, September 1936.
6.0 " Alfalfa, grass, trees, exp. plots, roads, etc.

Note G.S. 8: Winter Wheat, .25-.50' tall, planted October 1936. Fall plowing, no cover, September 1936. Winter wheat stubble, .50 to 1.0' high, harvested August 1936.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 4.

Plot by M.E.G. date 11-15-39 checked by L.M.M. date 12-4-39
Computations by J.M.Y. date 11-15-39 checked by L.M.M. date 11-15-39



Runoff
G. S. No. 2
April 12-15, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/12/37	3;00P	.0049	
	8;30	.0066	.000
	10;00	.022	.001
	10;40	.046	.001
	11;10	.106	.002
	11;40	.147	.003
	12;00M	.125	.003
4/13/37	12;20A	.080	.004
	2;10	.046	.005
	2;40	.080	.006
	4;00	.080	.007
	4;30	.211	.008
	4;50	.515	.010
	5;10	.921	.014
	5;30	.955	.018
	5;50	.672	.022
	6;10	.617	.026
	6;30	.730	.029
	7;00	.564	.033
	7;20	.515	.036
	8;10	.256	.041
	10;00	.125	.046
	11;00	.080	.047
	2;00P	.046	.050
	6;00	.031	.052
	12;00M	.036	.056
4/14/37	2;00A	.035	.056
	3;00	.147	.057
	4;50	.136	.061
	5;1[illegible]	.169	.062
	7;10	.169	.066
	8;30	.096	.069
	11;20	.080	.073
	2;00	.058	.076
	2;30	.080	.076
	3;30	.080	.077
	4;20	.184	.079
	5;00	.258	.081
	5;50	.289	.084
	6;40	.117	.086
	8;40	.125	.090

Runoff
G. S. No. 2
April 12-15, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/14/37	9;00	.334	.091
	9;20	.446	.093
	9;50	.269	.096
	10;50	.240	.099
	11;30	.446	.103
	12;00M	.445	.106
4/15/37	12;30A	.306	.109
	12;50	.272	.110
	1;10	.324	.112
	2;40	.256	.118
	3;50	.197	.122
	5;20	.125	.125
	7;00	.080	.128
	10;00	.046	.130
	11;50	.062	.132
	12;10P	.060	.132
	1;10	.046	.133
	6;00	.031	.136

Runoff
G. S. No. 6
April 12-15, 1937

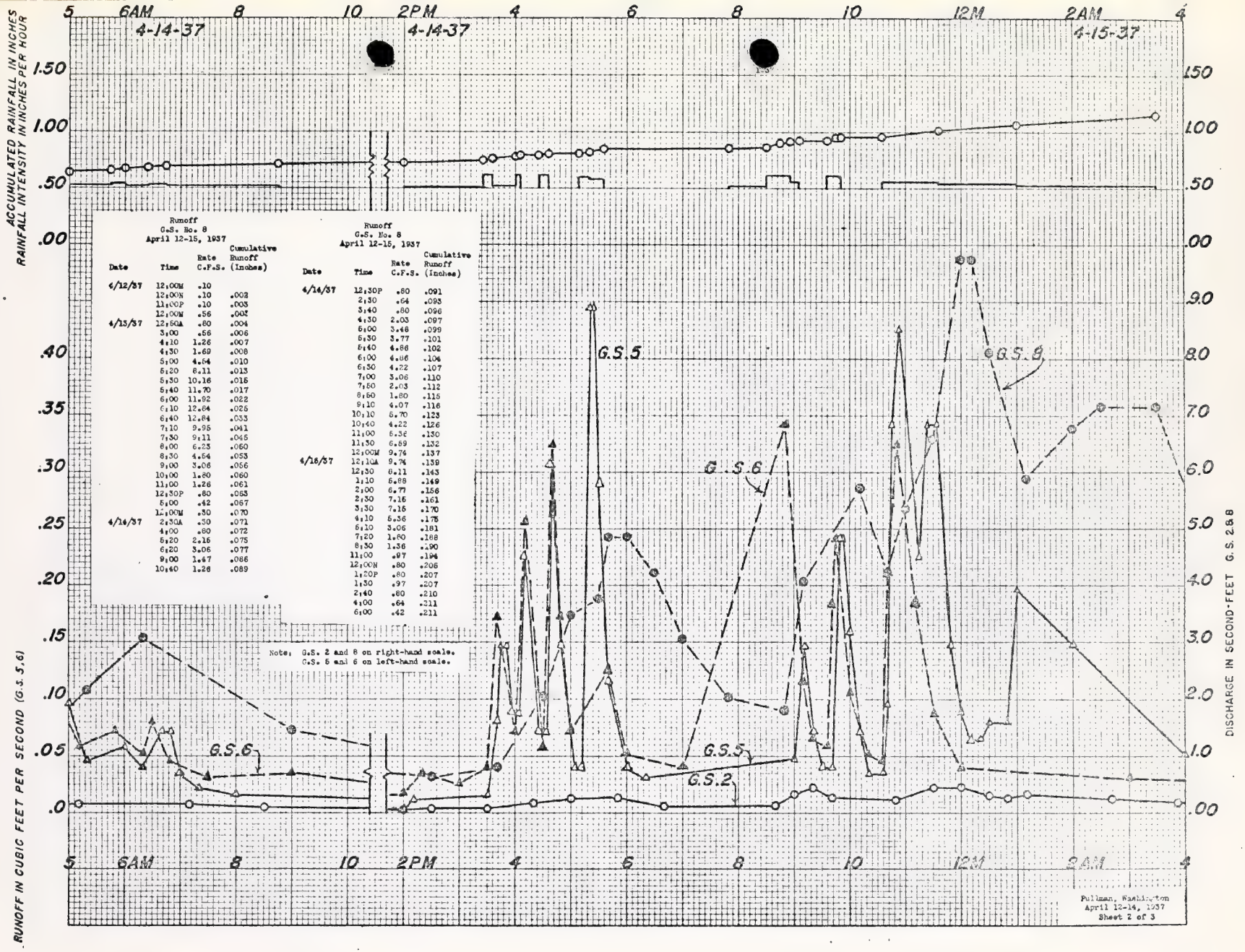
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/12/37	5;00P	.0024	
	8;00	.0035	.001
	9;10	.0066	.001
	10;10	.019	.002
	10;50	.040	.003
	11;05	.060	.004
	11;15	.080	.005
	11;30	.052	.006
	12;00M	.022	.007
4/13/37	12;50A	.016	.008
	2;00	.019	.010
	2;20	.026	.010
	2;40	.072	.011
	2;50	.072	.012
	3;00	.046	.012
	3;20	.046	.013
	3;30	.058	.014
	3;40	.046	.015
	4;00	.035	.016
	4;10	.125	.016
	4;20	.115	.018
	4;25	.225	.019
	4;40	.125	.021
	5;00	.072	.024
	7;00	.197	.041
	7;20	.080	.044
	9;00	.026	.050
	10;40	.016	.052
	12;00N	.0082	.053
	1;40P	.0082	.054
	2;10	.012	.055
	3;00	.0066	.055
	8;00	.0082	.058
	12;00M	.0082	.060
4/14/37	12;50A	.0082	.060
	1;10	.010	.060
	1;40	.010	.061
	2;10	.035	.061
	3;40	.026	.064
	4;10	.065	.066
	4;30	.046	.067
	4;50	.106	.069
	5;10	.058	.071
	5;50	.072	.073
	6;20	.062	.075
	6;30	.080	.076
	6;50	.046	.077

Runoff
G.S. No. 6
April 12-15, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/14/37	7;30A	.031	.079
	9;00	.035	.082
	11;10	.022	.086
	1;00P	.016	.089
	2;00	.016	.090
4/14/37	2;20	.035	.090
	3;00	.026	.092
	3;30	.040	.093
	3;40	.171	.094
	4;00	.072	.096
	4;10	.266	.098
	4;30	.056	.102
	4;40	.324	.104
	4;50	.171	.107
	5;00	.072	.108
	5;40	.125	.112
	6;00	.052	.114
	7;00	.040	.117
	8;50	.343	.140
	9;10	.115	.145
	9;20	.065	.146
	9;35	.066	.147
	9;40	.184	.148
	9;45	.240	.149
	10;00	.106	.152
	10;20	.052	.154
	10;35	.046	.154
	10;40	.211	.155
	10;50	.524	.158
	11;10	.164	.164
	11;30	.088	.167
	12;00M	.040	.169
4/15/37	3;00A	.031	.176
	6;00	.026	.181
	11;50	.012	.188
	12;00N	.026	.189
	12;50P	.012	.190
	3;20	.010	.191

Note: G.S. 2 and 8 on right-hand scale.
G.S. 5 and 6 on left-hand scale.

Pullman, Washington
April 12-14, 1937
Sheet 1 of 3

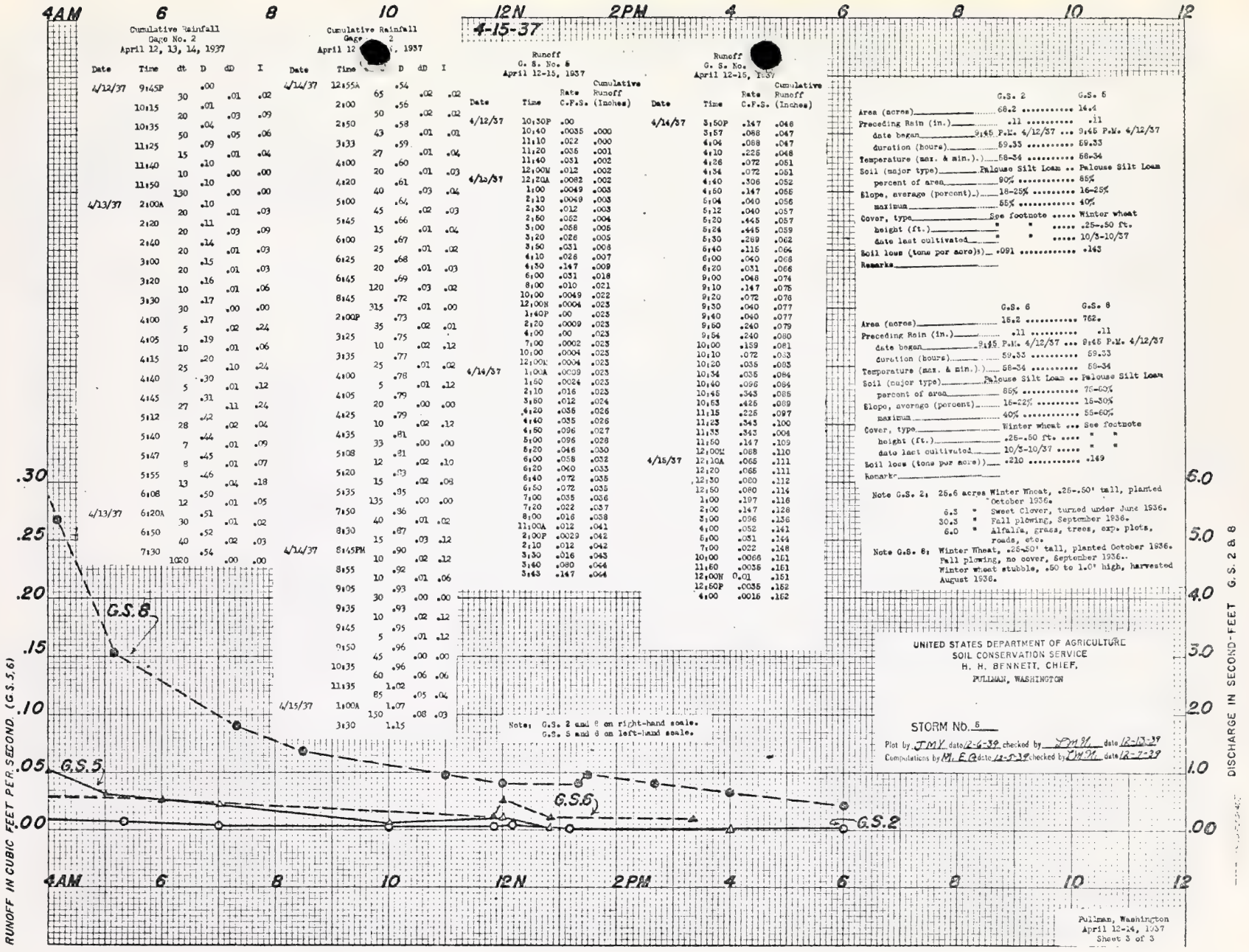


Runoff
G.S. No. 8
April 12-15, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/12/37	12:00M	.10	
	12:00N	.10	.002
	11:00P	.10	.003
	12:00M	.56	.003
4/13/37	12:50A	.80	.004
	3:00	.56	.006
	4:10	1.26	.007
	4:30	1.69	.008
	5:00	4.64	.010
	5:20	8.11	.013
	5:30	10.16	.015
	5:40	11.70	.017
	6:00	11.92	.022
	6:10	12.84	.025
	6:40	12.84	.033
	7:10	9.95	.041
	7:30	9:11	.045
	8:00	6.23	.050
	8:30	4.54	.053
	9:00	3.06	.056
	10:00	1.80	.060
	11:00	1.26	.061
	12:30P	.80	.063
	5:00	.42	.067
	12:00M	.30	.070
4/14/37	2:30A	.30	.071
	4:00	.80	.072
	5:20	2.16	.075
	6:20	3.06	.077
	9:00	1.47	.086
	10:40	1.26	.089

Runoff
G.S. No. 8
April 12-15, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/14/37	12:30P	.80	.091
	2:30	.64	.093
	3:40	.80	.096
	4:30	2.03	.097
	5:00	3.48	.099
	5:30	3.77	.101
	5:40	4.86	.102
	6:00	4.86	.104
	6:30	4.22	.107
	7:00	3.06	.110
	7:50	2.03	.112
	8:50	1.80	.115
	9:10	4.07	.116
	10:10	5.70	.123
	10:40	4.22	.126
	11:00	5.36	.130
	11:30	6.69	.132
	12:00M	9.74	.137
4/15/37	12:10A	9.74	.139
	12:30	8.11	.143
	1:10	6.88	.149
	2:00	6.77	.156
	2:30	7.16	.161
	3:30	7.16	.170
	4:10	5.36	.175
	6:10	3.06	.181
	7:20	1.80	.188
	8:30	1.36	.190
	11:00	.97	.194
	12:00N	.80	.206
	1:20P	.80	.207
	1:30	.97	.207
	2:40	.80	.210
	4:00	.64	.211
	6:00	.42	.211



Cumulative Rainfall
Gage No. 2
April 12, 13, 14, 1937

Date	Time	dt	D	dD	I
4/12/37	9:45P		.00		
		30		.01	.02
	10:15		.01		
		20		.03	.09
	10:35		.04		
		50		.05	.06
	11:25		.09		
		15		.01	.04
	11:40		.10		
		10		.00	.00
	11:50		.10		
		130		.00	.00
4/13/37	2:00A		.10		
		20		.01	.03
	2:20		.11		
		20		.03	.09
	2:40		.14		
		20		.01	.03
	3:00		.15		
		20		.01	.03
	3:20		.16		
		10		.01	.06
	3:30		.17		
		30		.00	.00
	4:00		.17		
		5		.02	.24
	4:05		.19		
		10		.01	.06
	4:15		.20		
		25		.10	.24
	4:40		.30		
		5		.01	.12
	4:45		.31		
		27		.11	.24
	5:12		.42		
		28		.02	.04
	5:40		.44		
		7		.01	.09
	5:47		.45		
		8		.01	.07
	5:55		.46		
		13		.04	.18
	6:08		.50		
		12		.01	.05
4/13/37	6:20A		.51		
		30		.01	.02
	6:50		.52		
		40		.02	.03
	7:30		.54		
		1020		.00	.00

Cumulative Rainfall
Gage No. 2
April 12, 13, 14, 1937

Date	Time	dt	D	dD	I
4/14/37	12:55A		.54		
		65		.02	.02
	2:00		.56		
		50		.02	.02
	2:50		.58		
		43		.01	.01
	3:33		.59		
		27		.01	.04
	4:00		.60		
		20		.01	.03
	4:20		.61		
		40		.03	.04
	5:00		.64		
		45		.02	.03
	5:45		.66		
		15		.01	.04
	6:00		.67		
		25		.01	.02
	6:25		.68		
		20		.01	.03
	6:45		.69		
		120		.03	.02
	8:45		.72		
		315		.01	.00
	2:00P		.73		
		35		.02	.01
	3:25		.75		
		10		.02	.12
	3:35		.77		
		25		.01	.02
	4:00		.78		
		5		.01	.12
	4:05		.79		
		20		.00	.00
	4:25		.79		
		10		.02	.12
	4:35		.81		
		33		.00	.00
	5:08		.81		
		12		.02	.10
	5:20		.83		
		15		.02	.08
	5:35		.85		
		135		.00	.00
	7:50		.86		
		40		.01	.02
	8:30		.87		
		15		.03	.12
4/14/37	8:45PM		.90		
		10		.02	.12
	8:55		.92		
		10		.01	.06
	9:05		.93		
		30		.00	.00
	9:35		.93		
		10		.02	.12
	9:45		.95		
		5		.01	.12
	9:50		.96		
		45		.00	.00
	10:35		.96		
		60		.06	.06
	11:35		1.02		
		85		.05	.04
4/15/37	1:00A		1.07		
		150		.08	.03
	3:30		1.15		

Runoff
G. S. No. 5
April 12-15, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/12/37	10:30P	.00	
	10:40	.0035	.000
	11:10	.022	.000
	11:20	.036	.001
	11:40	.031	.002
	12:00M	.012	.002
4/13/37	12:20A	.0082	.002
	1:00	.0049	.003
	2:10	.0049	.003
	2:30	.012	.003
	2:50	.052	.004
	3:00	.058	.005
	3:20	.026	.005
	3:50	.031	.006
	4:10	.026	.007
	4:30	.147	.009
	6:00	.031	.018
	8:00	.010	.021
	10:00	.0049	.022
	12:00N	.0004	.023
	1:40P	.00	.023
	2:20	.0009	.023
	4:00	.00	.023
	7:00	.0002	.023
	10:00	.0004	.023
	12:00M	.0004	.023
4/14/37	1:00A	.0009	.023
	1:50	.0024	.023
	2:10	.016	.023
	3:50	.012	.024
	4:20	.036	.026
	4:40	.035	.026
	4:50	.096	.027
	5:00	.096	.028
	5:20	.046	.030
	6:00	.058	.032
	6:20	.040	.033
	6:40	.072	.035
	6:50	.072	.035
	7:00	.035	.036
	7:20	.022	.037
	8:00	.016	.038
	11:00A	.012	.041
	2:00P	.0029	.042
	2:10	.012	.042
	3:30	.016	.043
	3:40	.080	.044
	3:43	.147	.044

Runoff
G. S. No. 6
April 12-15, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/14/37	3:50P	.147	.046
	3:57	.088	.047
	4:04	.088	.047
	4:10	.226	.048
	4:26	.072	.051
	4:34	.072	.051
	4:40	.306	.052
	4:50	.147	.055
	5:04	.040	.056
	5:12	.040	.057
	5:20	.445	.057
	5:24	.445	.059
	5:30	.269	.062
	5:40	.115	.064
	6:00	.040	.068
	6:20	.031	.066
	9:00	.046	.074
	9:10	.147	.075
	9:20	.072	.076
	9:30	.040	.077
	9:40	.040	.077
	9:50	.240	.079
	9:54	.240	.080
	10:00	.159	.081
	10:10	.072	.083
	10:20	.035	.083
	10:34	.035	.084
	10:40	.096	.084
	10:46	.343	.085
	10:53	.425	.089
	11:15	.225	.097
	11:23	.343	.100
	11:33	.343	.104
	11:50	.147	.109
	12:00M	.088	.110
4/15/37	12:10A	.065	.111
	12:20	.065	.111
	12:30	.080	.112
	12:50	.080	.114
	1:00	.197	.116
	2:00	.147	.128
	3:00	.096	.136
	4:00	.052	.141
	5:00	.051	.144
	7:00	.022	.148
	10:00	.0066	.151
	11:50	.0035	.151
	12:00N	0.01	.151
	12:50P	.0035	.152
	4:00	.0016	.152

	G.S. 2	G.S. 5
Area (acres)	68.2	14.4
Preceding Rain (in.)	.11	.11
date began	9:45 P.M. 4/12/37	9:45 P.M. 4/12/37
duration (hours)	59.33	59.33
Temperature (max. & min.)	58-34	58-34
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-25%
maximum	55%	40%
Cover, type	See footnote	Winter wheat
height (ft.)	" "	.25-.50 ft.
date last cultivated	" "	10/3-10/37
Soil loss (tons per acre))	.091	.143

Remarks

	G.S. 6	G.S. 8
Area (acres)	15.2	762.
Preceding Rain (in.)	.11	.11
date began	9:45 P.M. 4/12/37	9:45 P.M. 4/12/37
duration (hours)	59.33	59.33
Temperature (max. & min.)	58-34	58-34
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	16-22%	16-30%
maximum	40%	55-60%
Cover, type	Winter wheat	See footnote
height (ft.)	.25-.50 ft.	" "
date last cultivated	10/3-10/37	" "
Soil loss (tons per acre))	.210	.149

Remarks

Note G.S. 2: 25.6 acres Winter Wheat, .25-.50' tall, planted October 1936.
6.3 " Sweet Clover, turned under June 1936.
30.3 " Fall plowing, September 1936.
6.0 " Alfalfa, grass, trees, exp. plots, roads, etc.

Note G.S. 8: Winter Wheat, .25-.50' tall, planted October 1936. Fall plowing, no cover, September 1936.. Winter wheat stubble, .50 to 1.0' high, harvested August 1936.

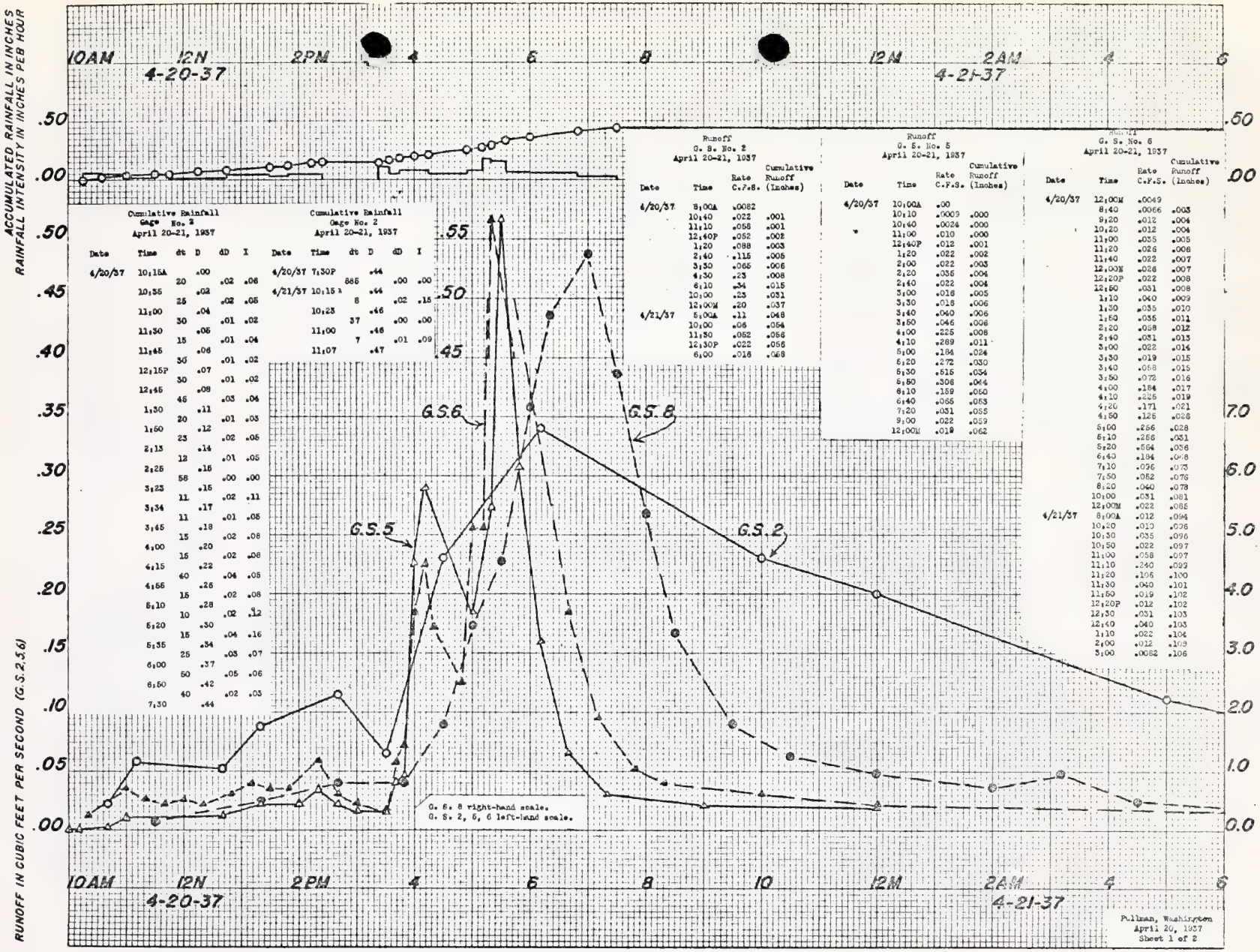
Note: G.S. 2 and 8 on right-hand scale.
G.S. 5 and 6 on left-hand scale.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 6

Plot by J.M.V. date 12-6-39 checked by D.M.M. date 12-13-39
Computations by M.E.G. date 12-5-39 checked by D.M.M. date 12-7-39

Pullman, Washington
April 12-14, 1937
Sheet 3 of 3



Cumulative Rainfall
Gage No. 2
April 20-21, 1937

Date	Time	dt	D	dD	I
4/20/37	10:15A		.00		
		20		.02	.06
	10:35		.02		
		25		.02	.05
	11:00		.04		
		30		.01	.02
	11:30		.05		
		15		.01	.04
	11:45		.06		
		30		.01	.02
	12:15P		.07		
		30		.01	.02
	12:45		.08		
		45		.03	.04
	1:30		.11		
		20		.01	.03
	1:50		.12		
		23		.02	.05
	2:13		.14		
		12		.01	.05
	2:25		.15		
		58		.00	.00
	3:23		.15		
		11		.02	.11
	3:34		.17		
		11		.01	.05
	3:45		.18		
		15		.02	.08
	4:00		.20		
		15		.02	.08
	4:15		.22		
		40		.04	.05
	4:55		.26		
		15		.02	.08
	5:10		.28		
		10		.02	.12
	5:20		.30		
		15		.04	.16
	5:35		.34		
		25		.03	.07
	6:00		.37		
		50		.05	.06
	6:50		.42		
		40		.02	.03
	7:30		.44		

Cumulative Rainfall
Gage No. 2
April 20-21, 1937

Date	Time	dt	D	dD	I
4/20/37	7:30P		.44		
		885		.00	.00
4/21/37	10:15A		.44		
		8		.02	.15
	10:23		.46		
		37		.00	.00
	11:00		.46		
		7		.01	.09
	11:07		.47		

Runoff
G. S. No. 2
April 20-21, 1937

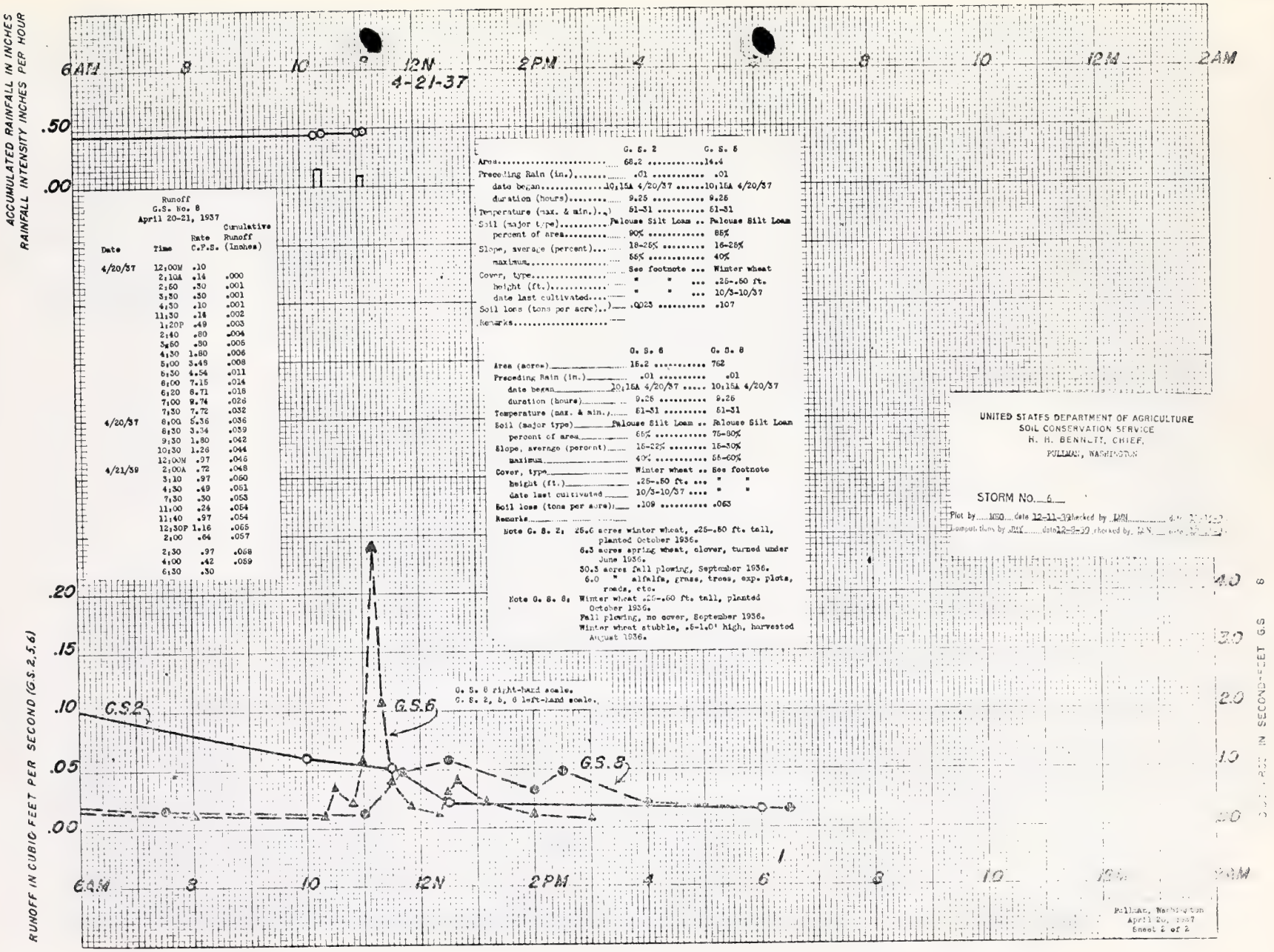
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/20/37	8:00A	.0082	
	10:40	.022	.001
	11:10	.058	.001
	12:40P	.052	.002
	1:20	.088	.003
	2:40	.115	.005
	3:30	.065	.006
	4:30	.23	.008
	6:10	.34	.015
	10:00	.23	.031
	12:00M	.20	.037
4/21/37	5:00A	.11	.048
	10:00	.06	.054
	11:30	.052	.056
	12:30P	.022	.056
	6:00	.016	.058

Runoff
G. S. No. 5
April 20-21, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/20/37	10:00A	.00	
	10:10	.0009	.000
	10:40	.0024	.000
	11:00	.010	.000
	12:40P	.012	.001
	1:20	.022	.002
	2:00	.022	.003
	2:20	.036	.004
	2:40	.022	.004
	3:00	.016	.005
	3:30	.016	.006
	3:40	.040	.006
	3:50	.046	.006
	4:00	.225	.008
	4:10	.289	.011
	5:00	.184	.024
	5:20	.272	.030
	5:30	.515	.034
	5:50	.306	.044
	6:10	.159	.050
	6:40	.055	.053
	7:20	.031	.055
	9:00	.022	.059
	12:00M	.019	.062

Runoff
G. S. No. 6
April 20-21, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
4/20/37	12:00M	.0049	
	8:40	.0066	.003
	9:20	.012	.004
	10:20	.012	.004
	11:00	.035	.005
	11:20	.026	.006
	11:40	.022	.007
	12:00N	.026	.007
	12:20P	.022	.008
	12:50	.031	.008
	1:10	.040	.009
	1:30	.035	.010
	1:50	.035	.011
	2:20	.038	.012
	2:40	.031	.013
	3:00	.022	.014
	3:30	.019	.015
	3:40	.058	.015
	3:50	.072	.016
	4:00	.184	.017
	4:10	.225	.019
	4:20	.171	.021
	4:50	.125	.026
	5:00	.256	.028
	5:10	.256	.031
	5:20	.564	.036
	6:40	.184	.048
	7:10	.096	.073
	7:50	.052	.076
	8:20	.040	.078
	10:00	.031	.081
	12:00M	.022	.085
4/21/37	8:00A	.012	.094
	10:20	.010	.096
	10:30	.035	.096
	10:50	.022	.097
	11:00	.058	.097
	11:10	.240	.099
	11:20	.106	.100
	11:30	.040	.101
	11:50	.019	.102
	12:20P	.012	.102
	12:30	.031	.103
	12:40	.040	.103
	1:10	.022	.104
	2:00	.012	.105
	3:00	.0082	.106



Runoff
G.S. No. 8
April 20-21, 1937

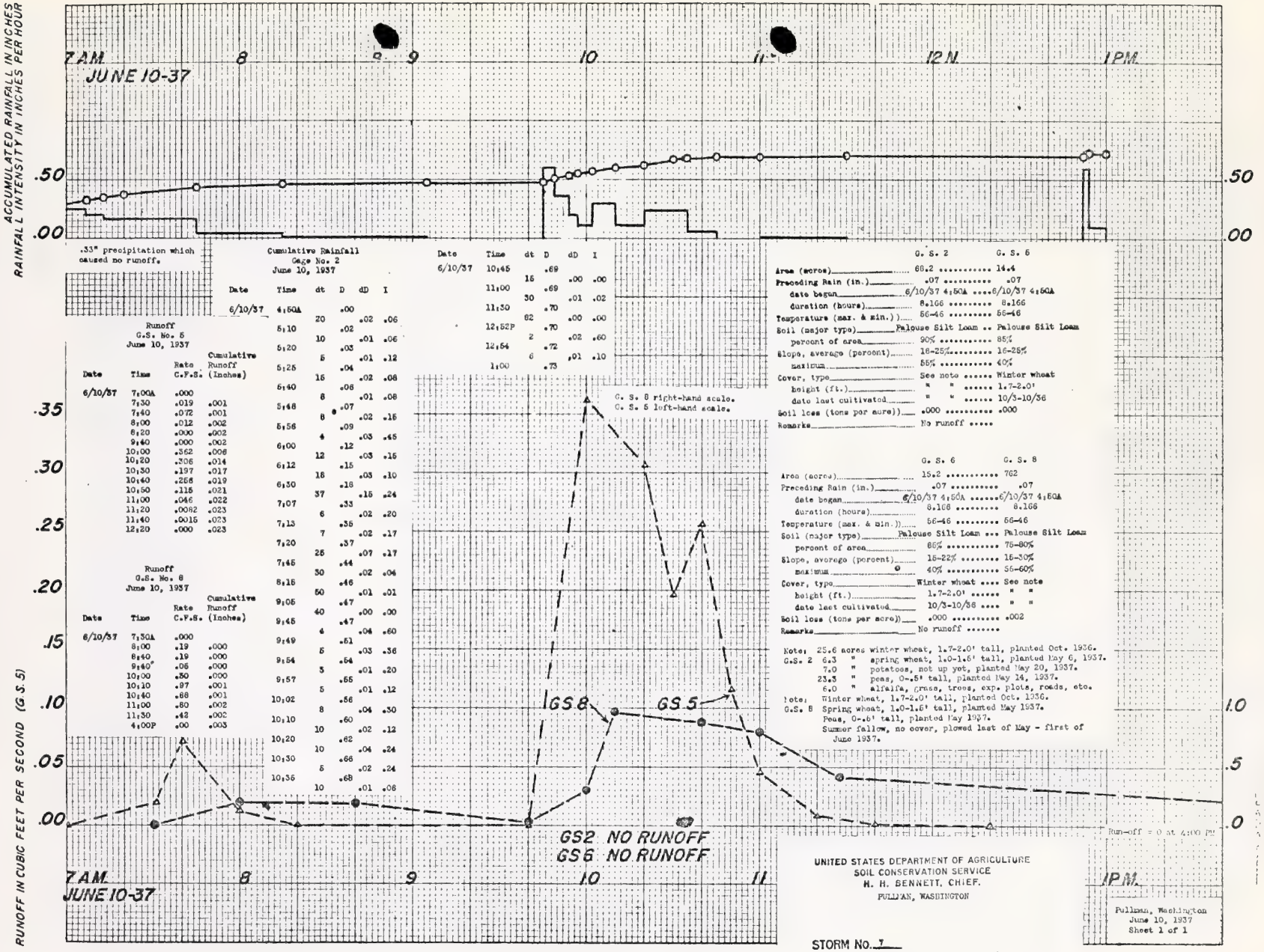
Date	Time	Rate C.F.S.	Cumulative Runoff (inches)
4/20/37	12:00M	.10	
	2:10A	.14	.000
	2:50	.30	.001
	3:50	.30	.001
	4:50	.10	.001
	11:30	.14	.002
	1:20P	.49	.003
	2:40	.80	.004
	3:50	.80	.005
	4:30	1.80	.006
	5:00	3.48	.008
	6:30	4.54	.011
	6:00	7.15	.014
	6:20	8.71	.018
	7:00	9.74	.028
	7:30	7.72	.032
4/20/37	8:00	5.36	.036
	8:30	3.34	.039
	9:30	1.80	.042
	10:30	1.26	.044
	12:00M	.97	.046
4/21/39	2:00A	.72	.048
	3:10	.97	.050
	4:30	.49	.051
	7:30	.30	.053
	11:00	.24	.054
	11:40	.97	.054
	12:30P	1.16	.055
	2:00	.64	.057
	2:30	.97	.058
	4:00	.42	.059
	6:30	.30	

	G. S. 2	G. S. 5
Area	68.2	14.4
Preceding Rain (in.)	.01	.01
date began	10:15A 4/20/37	10:15A 4/20/37
duration (hours)	9.25	9.25
Temperature (max. & min.)	51-31	51-31
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-25%
maximum	55%	40%
Cover, type	See footnote	Winter wheat
height (ft.)	" "	.25-.50 ft.
date last cultivated	" "	10/3-10/37
Soil loss (tons per acre)	.0023	.107
Remarks		

	G. S. 6	G. S. 8
Area (acres)	15.2	762
Preceding Rain (in.)	.01	.01
date began	10:15A 4/20/37	10:15A 4/20/37
duration (hours)	9.25	9.25
Temperature (max. & min.)	51-31	51-31
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	65%	75-80%
Slope, average (percent)	15-22%	15-30%
maximum	40%	55-60%
Cover, type	Winter wheat	See footnote
height (ft.)	.25-.50 ft.	" "
date last cultivated	10/3-10/37	" "
Soil loss (tons per acre)	.109	.063
Remarks		

Note G. S. 2: 25.6 acres winter wheat, .25-.50 ft. tall, planted October 1936.
6.3 acres spring wheat, clover, turned under June 1936.
30.3 acres fall plowing, September 1936.
6.0 " alfalfa, grass, trees, exp. plots, roads, etc.

Note G. S. 8: Winter wheat .25-.60 ft. tall, planted October 1936.
Fall plowing, no cover, September 1936.
Winter wheat stubble, .5-1.0' high, harvested August 1936.



Runoff
G.S. No. 5
June 10, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/10/37	7:00A	.000	
	7:30	.019	.001
	7:40	.072	.001
	8:00	.012	.002
	8:20	.000	.002
	9:40	.000	.002
	10:00	.362	.006
	10:20	.306	.014
	10:30	.197	.017
	10:40	.256	.019
	10:50	.115	.021
	11:00	.046	.022
	11:20	.0082	.023
	11:40	.0015	.023
	12:20	.000	.023

Runoff
G.S. No. 8
June 10, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/10/37	7:30A	.000	
	8:00	.19	.000
	8:40	.19	.000
	9:40	.05	.000
	10:00	.50	.000
	10:10	.97	.001
	10:40	.88	.001
	11:00	.80	.002
	11:30	.42	.002
	4:00P	.00	.003

Cumulative Rainfall
Gage No. 2
June 10, 1937

Date	Time	dt	D	dD	I
6/10/37	4:50A		.00		
		20		.02	.06
	5:10		.02		
		10		.01	.06
	5:20		.03		
		5		.01	.12
	5:25		.04		
		15		.02	.08
	5:40		.06		
		8		.01	.08
	5:48		.07		
		8		.02	.15
	5:56		.09		
		4		.03	.45
	6:00		.12		
		12		.03	.15
	6:12		.15		
		18		.03	.10
	6:30		.18		
		37		.15	.24
	7:07		.33		
		6		.02	.20
	7:13		.35		
		7		.02	.17
	7:20		.37		
		25		.07	.17
	7:45		.44		
		30		.02	.04
	8:15		.46		
		50		.01	.01
	9:05		.47		
		40		.00	.00
	9:45		.47		
		4		.04	.60
	9:49		.51		
		5		.03	.36
	9:54		.54		
		3		.01	.20
	9:57		.55		
		5		.01	.12
	10:02		.56		
		8		.04	.30
	10:10		.60		
		10		.02	.12
	10:20		.62		
		10		.04	.24
	10:30		.66		
		5		.02	.24
	10:36		.68		
		10		.01	.06

Date	Time	dt	D	dD	I
6/10/37	10:45		.69		
		15		.00	.00
	11:00		.69		
		30		.01	.02
	11:30		.70		
		82		.00	.00
	12:52P		.70		
		2		.02	.60
	12:54		.72		
		6		.01	.10
	1:00		.73		

	G. S. 2	G. S. 6
Area (acres)	68.2	14.4
Preceding Rain (in.)	.07	.07
date began	6/10/37 4:50A	6/10/37 4:50A
duration (hours)	8.166	8.166
Temperature (max. & min.)	56-46	56-46
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-25%
maximum	55%	40%
Cover, type	See note	Winter wheat
height (ft.)	" "	1.7-2.0'
date last cultivated	" "	10/3-10/36
Soil loss (tons per acre)	.000	.000
Remarks	No runoff	

	G. S. 6	G. S. 8
Area (acres)	15.2	762
Preceding Rain (in.)	.07	.07
date began	6/10/37 4:50A	6/10/37 4:50A
duration (hours)	8.166	8.166
Temperature (max. & min.)	56-46	56-46
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	18-22%	16-30%
maximum	40%	56-60%
Cover, type	Winter wheat	See note
height (ft.)	1.7-2.0'	" "
date last cultivated	10/3-10/36	" "
Soil loss (tons per acre)	.000	.002
Remarks	No runoff	

Note: 25.6 acres winter wheat, 1.7-2.0' tall, planted Oct. 1936.
G.S. 2 6.3 " spring wheat, 1.0-1.6' tall, planted May 6, 1937.
7.0 " potatoes, not up yet, planted May 20, 1937.
23.3 " peas, 0-.5' tall, planted May 14, 1937.
6.0 " alfalfa, grass, trees, exp. plots, roads, etc.

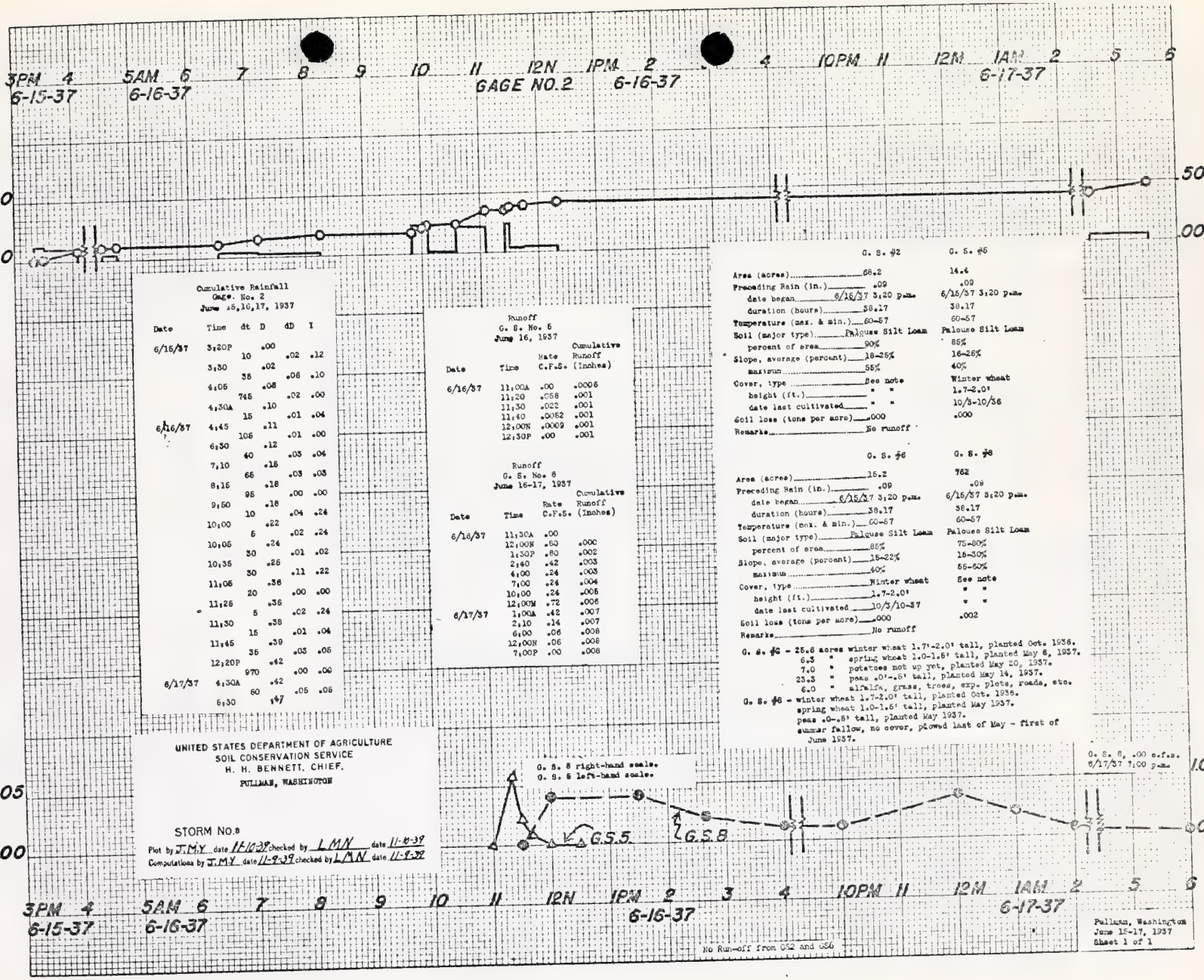
Note: Winter wheat, 1.7-2.0' tall, planted Oct. 1936.
G.S. 8 Spring wheat, 1.0-1.6' tall, planted May 1937.
Peas, 0-.6' tall, planted May 1937.
Summer fallow, no cover, plowed last of May - first of June 1937.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

Pullman, Washington
June 10, 1937
Sheet 1 of 1

STORM No. 7

Plot by MEG date 11-17-39 checked by L.M.N. date 12-13-39
Computations by JMY date 11-16-39 checked by L.M.N. date 11-17-39



Cumulative Rainfall
Gage. No. 2
June 15,16,17, 1937

Date	Time	dt	D	dD	I
6/15/37	3:20P		.00		
		10		.02	.12
	3:30		.02		
		35		.06	.10
	4:05		.08		
		745		.02	.00
	4:30A		.10		
		15		.01	.04
6/16/37	4:45		.11		
		105		.01	.00
	6:30		.12		
		40		.03	.04
	7:10		.15		
		65		.03	.03
	8:15		.18		
		95		.00	.00
	9:50		.18		
		10		.04	.24
	10:00		.22		
		5		.02	.24
	10:05		.24		
		30		.01	.02
	10:35		.26		
		30		.11	.22
	11:05		.36		
		20		.00	.00
	11:25		.36		
		5		.02	.24
	11:30		.38		
		15		.01	.04
	11:45		.39		
		35		.03	.05
	12:20P		.42		
		970		.00	.00
6/17/37	4:30A		.42		
		60		.05	.05
	5:30		147		

Runoff
G. S. No. 5
June 16, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/16/37	11:00A	.00	.0006
	11:20	.058	.001
	11:30	.022	.001
	11:40	.0052	.001
	12:00N	.0009	.001
	12:30P	.00	.001

Runoff
G. S. No. 8
June 16-17, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/16/37	11:30A	.00	
	12:00N	.60	.000
	1:30P	.80	.002
	2:40	.42	.003
	4:00	.24	.003
	7:00	.24	.004
	10:00	.24	.005
	12:00M	.72	.006
6/17/37	1:00A	.42	.007
	2:10	.14	.007
	6:00	.06	.008
	12:00N	.06	.008
	7:00P	.00	.008

	G. S. #2	G. S. #5
Area (acres)	68.2	14.4
Preceding Rain (in.)	.09	.09
date began	6/15/37 3:20 p.m.	6/15/37 3:20 p.m.
duration (hours)	38.17	38.17
Temperature (max. & min.)	60-57	60-57
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-26%
maximum	55%	40%
Cover, type	See note	Winter wheat
height (ft.)	" "	1.7-2.0'
date last cultivated	" "	10/3-10/36
Soil loss (tons per acre)	.000	.000
Remarks	No runoff	

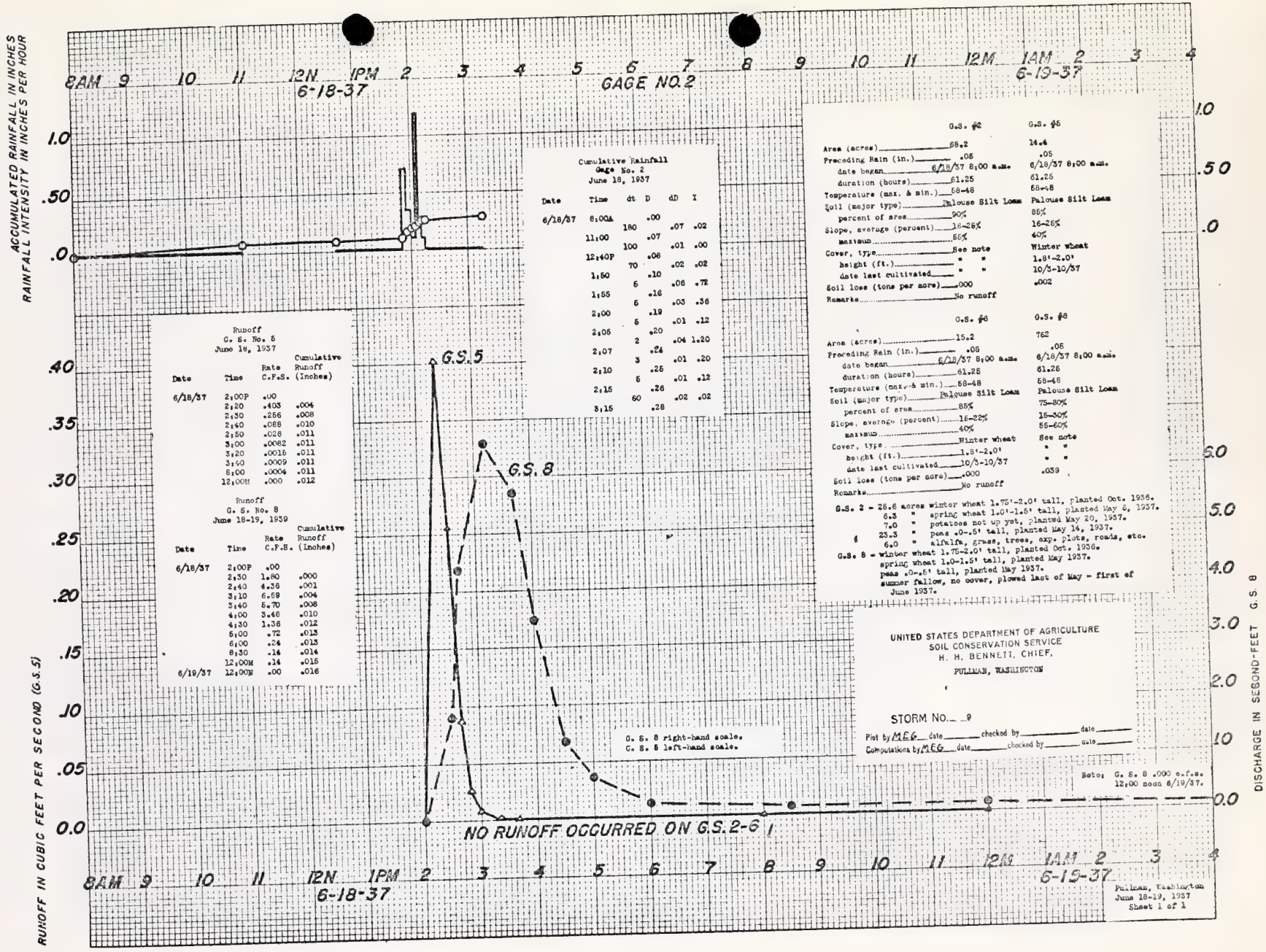
	G. S. #6	G. S. #8
Area (acres)	15.2	762
Preceding Rain (in.)	.09	.09
date began	6/15/37 3:20 p.m.	6/15/37 3:20 p.m.
duration (hours)	38.17	38.17
Temperature (max. & min.)	60-57	60-57
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	15-22%	15-30%
maximum	40%	55-60%
Cover, type	Winter wheat	See note
height (ft.)	1.7-2.0'	" "
date last cultivated	10/3/10-37	" "
Soil loss (tons per acre)	.000	.002
Remarks	No runoff	

G. S. #2 - 25.6 acres winter wheat 1.7'-2.0' tall, planted Oct. 1936.
6.3 " spring wheat 1.0-1.5' tall, planted May 6, 1937.
7.0 " potatoes not up yet, planted May 20, 1937.
23.3 " peas .0'-.5' tall, planted May 14, 1937.
6.0 " alfalfa, grass, trees, exp. plots, roads, etc.

G. S. #5 - winter wheat 1.7-2.0' tall, planted Oct. 1936.
spring wheat 1.0-1.5' tall, planted May 1937.
peas .0-.5' tall, planted May 1937.
summer fallow, no cover, plowed last of May - first of June 1937.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No.8
Plot by J.M.Y date 11-10-39 checked by L.M.N date 11-10-39
Computations by J.M.Y date 11-9-39 checked by L.M.N date 11-9-39



Cumulative Rainfall
Gage No. 2
June 18, 1937

Date	Time	dt	D	dD	I
6/18/37	8:00A		.00		
		180		.07	.02
	11:00		.07		
		100		.01	.00
	12:40P		.08		
		70		.02	.02
	1:50		.10		
		5		.06	.72
	1:55		.16		
		5		.03	.36
	2:00		.19		
		5		.01	.12
	2:05		.20		
		2		.04	1.20
	2:07		.24		
		3		.01	.20
	2:10		.25		
		5		.01	.12
	2:15		.26		
		60		.02	.02
	3:15		.28		

Runoff
G. S. No. 5
June 18, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/18/37	2:00P	.00	
	2:20	.403	.004
	2:30	.256	.008
	2:40	.088	.010
	2:50	.026	.011
	3:00	.0062	.011
	3:20	.0016	.011
	3:40	.0009	.011
	6:00	.0004	.011
	12:00M	.000	.012

Runoff
G. S. No. 8
June 18-19, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/18/37	2:00P	.00	
	2:30	1.80	.000
	2:40	4.38	.001
	3:10	6.59	.004
	3:40	5.70	.008
	4:00	3.48	.010
	4:30	1.36	.012
	5:00	.72	.013
	6:00	.24	.013
	8:30	.14	.014
	12:00M	.14	.015
6/19/37	12:00N	.00	.016

	G.S. #2	G.S. #5
Area (acres)	68.2	14.4
Preceding Rain (in.)	.05	.05
date began	6/18/37 8:00 a.m.	6/18/37 8:00 a.m.
duration (hours)	61.25	61.25
Temperature (max. & min.)	58-48	58-48
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	16-26%	16-26%
maximum	55%	40%
Cover, type	See note	Winter wheat
height (ft.)	" "	1.8'-2.0'
date last cultivated	" "	10/3-10/37
Soil loss (tons per acre)	.000	.002
Remarks	No runoff	

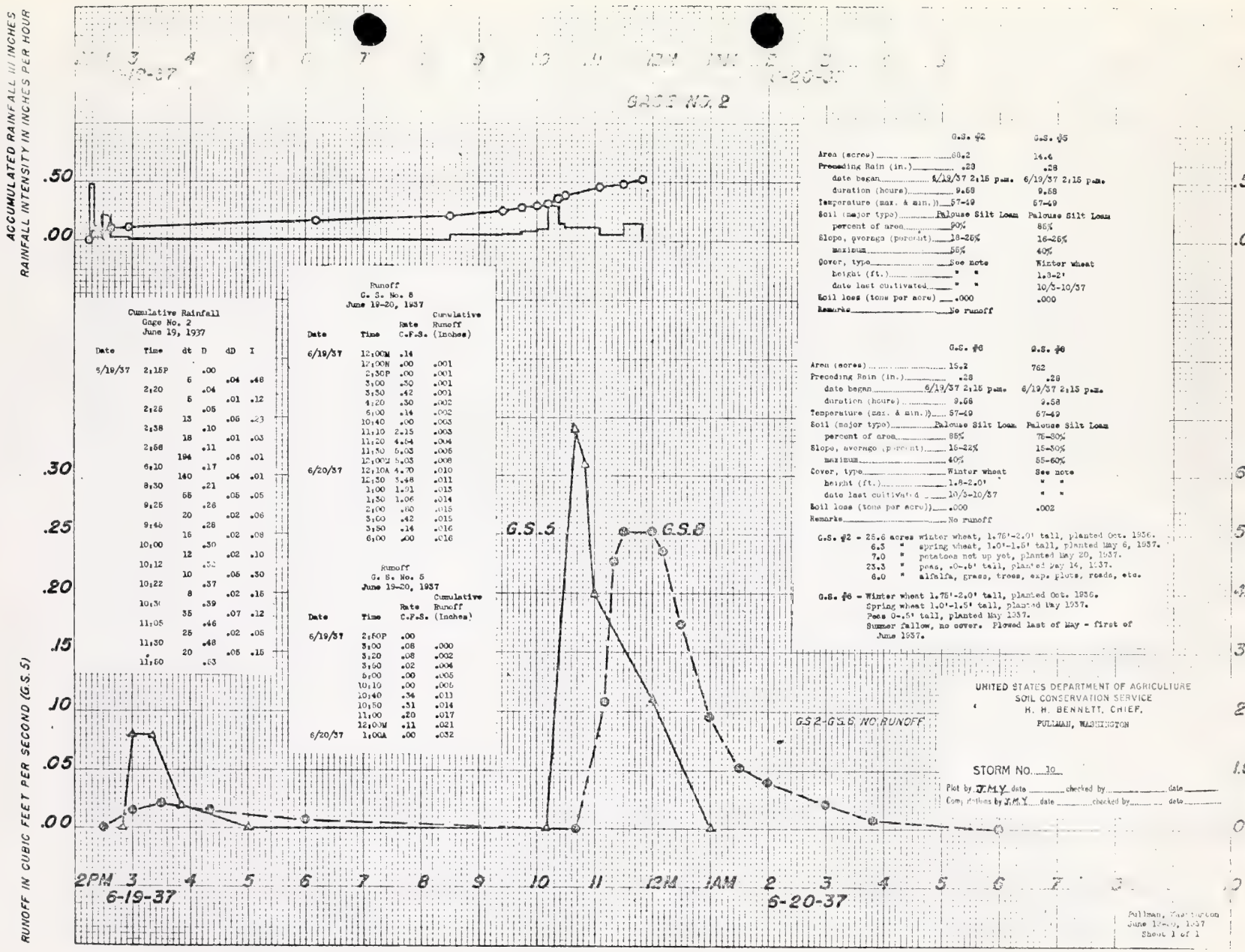
	G.S. #6	G.S. #8
Area (acres)	15.2	762
Preceding Rain (in.)	.05	.05
date began	6/18/37 8:00 a.m.	6/18/37 8:00 a.m.
duration (hours)	61.25	61.25
Temperature (max. & min.)	58-48	58-48
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	16-22%	16-30%
maximum	40%	55-60%
Cover, type	Winter wheat	See note
height (ft.)	1.8'-2.0'	" "
date last cultivated	10/3-10/37	" "
Soil loss (tons per acre)	.000	.039
Remarks	No runoff	

G.S. 2 - 25.6 acres winter wheat 1.75'-2.0' tall, planted Oct. 1936.
6.3 " spring wheat 1.0'-1.5' tall, planted May 2, 1937.
7.0 " potatoes not up yet, planted May 20, 1937.
23.3 " peas .0-.5' tall, planted May 14, 1937.
6.0 " alfalfa, grass, trees, exp. plots, roads, etc.

G.S. 8 - winter wheat 1.75-2.0' tall, planted Oct. 1936.
spring wheat 1.0-1.5' tall, planted May 1937.
peas .0-.5' tall, planted May 1937.
summer fallow, no cover, plowed last of May - first of June 1937.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM NO. 9
Plot by MEG date ____ checked by ____ date ____
Computations by MEG date ____ checked by ____ date ____



Cumulative Rainfall
Gage No. 2
June 19, 1937

Date	Time	dt	D	dD	I
6/19/37	2:15P		.00		
		5		.04	.48
	2:20		.04		
		5		.01	.12
	2:25		.05		
		13		.06	.23
	2:38		.10		
		18		.01	.03
	2:56		.11		
		194		.06	.01
	6:10		.17		
		140		.04	.01
	8:30		.21		
		55		.05	.05
	9:25		.26		
		20		.02	.06
	9:46		.28		
		15		.02	.08
	10:00		.30		
		12		.02	.10
	10:12		.32		
		10		.05	.30
	10:22		.37		
		8		.02	.16
	10:30		.39		
		35		.07	.12
	11:05		.46		
		25		.02	.05
	11:30		.48		
		20		.05	.15
	11:50		.63		

Runoff
G. S. No. 8
June 19-20, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/19/37	12:00M	.14	
	12:00N	.00	.001
	2:30P	.00	.001
	3:00	.30	.001
	3:30	.42	.001
	4:20	.30	.002
	6:00	.14	.002
	10:40	.00	.003
	11:10	2.15	.003
	11:20	4.64	.004
	11:30	5.03	.005
	12:00M	5.03	.008
6/20/37	12:10A	4.70	.010
	12:30	3.48	.011
	1:00	1.91	.013
	1:30	1.06	.014
	2:00	.80	.015
	3:00	.42	.015
	3:50	.14	.016
	6:00	.00	.016

Runoff
G. S. No. 5
June 19-20, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/19/37	2:50P	.00	
	3:00	.08	.000
	3:20	.08	.002
	3:60	.02	.004
	5:00	.00	.005
	10:10	.00	.005
	10:40	.34	.011
	10:50	.31	.014
	11:00	.20	.017
	12:00M	.11	.021
6/20/37	1:00A	.00	.032

	G.S. #2	G.S. #5
Area (acres)	88.2	14.4
Preceding Rain (in.)	.28	.28
date began	6/19/37 2:15 p.m.	6/19/37 2:15 p.m.
duration (hours)	9.58	9.58
Temperature (max. & min.))	57-49	57-49
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-26%	16-26%
maximum	55%	40%
Cover, type	See note	Winter wheat
height (ft.)	" "	1.8-2'
date last cultivated	" "	10/3-10/37
Soil loss (tons per acre)	.000	.000
Remarks	No runoff	

	G.S. #6	G.S. #8
Area (acres)	15.2	762
Preceding Rain (in.)	.28	.28
date began	6/19/37 2:15 p.m.	6/19/37 2:15 p.m.
duration (hours)	9.58	9.58
Temperature (max. & min.))	57-49	57-49
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	16-22%	15-30%
maximum	40%	55-60%
Cover, type	Winter wheat	See note
height (ft.)	1.8-2.0'	" "
date last cultivated	10/3-10/37	" "
Soil loss (tons per acre))	.000	.002
Remarks	No runoff	

G.S. #2 - 25.6 acres winter wheat, 1.75'-2.0' tall, planted Oct. 1936.
6.3 " spring wheat, 1.0'-1.5' tall, planted May 6, 1937.
7.0 " potatoes not up yet, planted May 20, 1937.
23.3 " peas, .0-.5' tall, planted May 14, 1937.
8.0 " alfalfa, grass, trees, exp. plots, roads, etc.

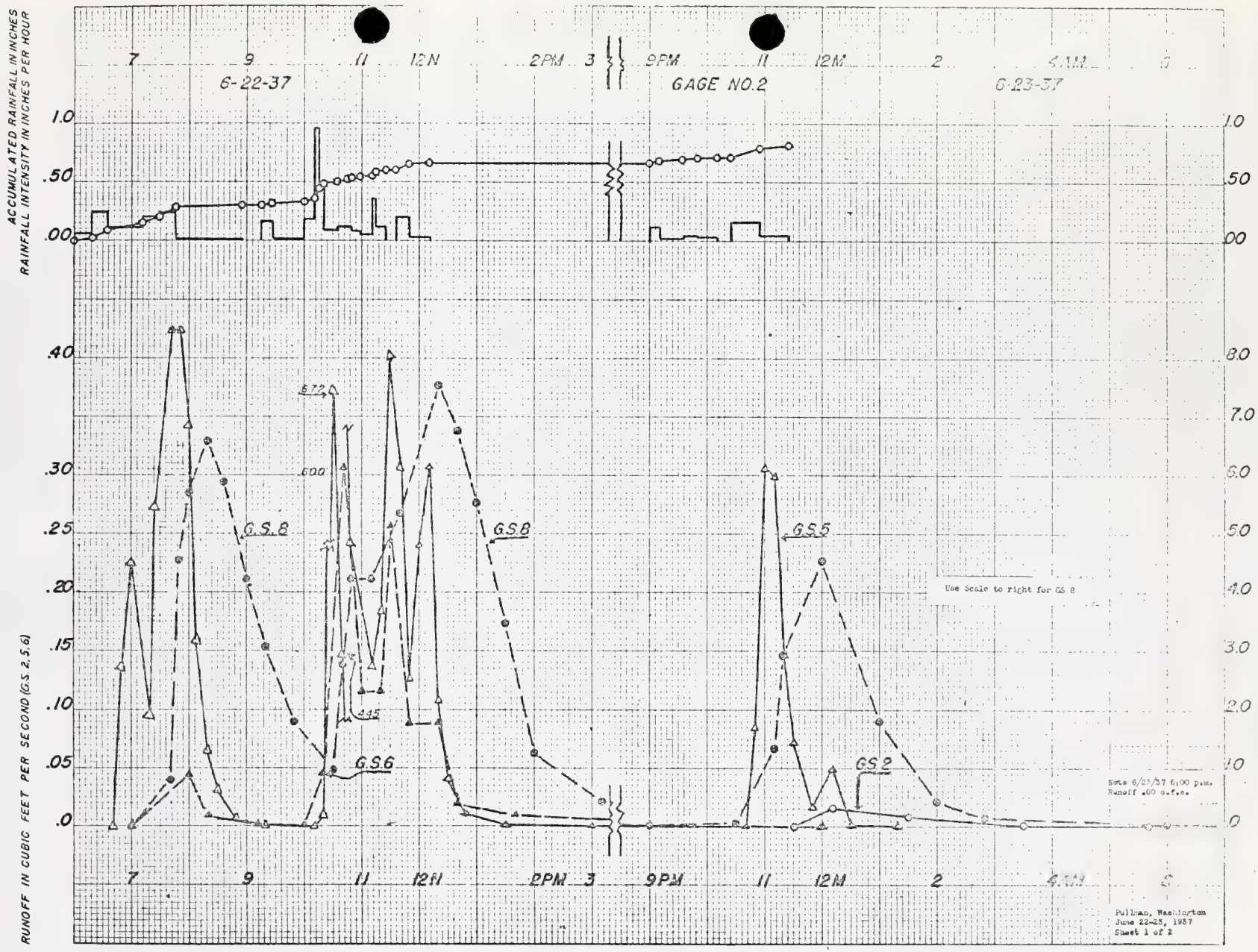
G.S. #6 - Winter wheat 1.75'-2.0' tall, planted Oct. 1936.
Spring wheat 1.0'-1.5' tall, planted May 1937.
Peas 0-.5' tall, planted May 1937.
Summer fallow, no cover. Plowed last of May - first of June 1937.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 10

Plot by J.M.Y. date ____ checked by ____ date ____
Computations by J.M.Y. date ____ checked by ____ date ____

Pullman, Washington
June 19-20, 1937
Sheet 1 of 1


ACCUMULATED RAINFALL IN INCHES
RAINFALL INTENSITY IN INCHES PER HOUR
RUNOFF IN CUBIC FEET PER SECOND (G.S. 2, 5, 6)
DISCHARGE IN SECOND-FEET G.S. 8
6-22-37
GAGE NO. 2
6-23-37
7
9
11
12N
2PM
3
9PM
11
12M
2
4AM
6
1.0
.50
.00
.40
.30
.25
.20
.15
.10
.05
.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
.0
G.S. 8
G.S. 8
G.S. 5
G.S. 6
G.S. 2
572
600
445
Use Scale to right for GS 8
Note 6/23/37 6:00 p.m.
Runoff .00 c.f.s.
Pullman, Washington
June 22-23, 1937
Sheet 1 of 2

Runoff
G. S. No. 2
June 22-23, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/22/37	11:30P	.00	
6/23/37	12:10A	.016	.000
	1:30	.0082	.000
	3:30	.0015	.000
	5:40	.00	.000

Cumulative Rainfall
Gage No. 2
June 22, 1937

Date	Time	dt	D	dD	I
6/22/37	6:00A		.00		
		20		.02	.06
	6:20		.02		
		15		.06	.24
	6:35		.08		
		35		.07	.12
	7:10		.15		
		15		.05	.20
	7:25		.20		
		21		.08	.23
	7:46		.28		
		69		.02	.02
	8:55		.30		
		20		.00	.00
	9:15		.30		
		7		.02	.17
	9:22		.32		
		38		.01	.02
	10:00		.33		
		10		.03	.18
	10:10		.36		
		5		.08	.96
	10:15		.44		
		5		.04	.48
	10:20		.48		
		15		.02	.08
	10:35		.50		
		10		.02	.12
	10:45		.52		
		5		.01	.12
	10:50		.53		
		8		.01	.08
	10:58		.54		
		12		.01	.05
	11:10		.55		
		5		.03	.36
	11:15		.58		
		10		.02	.12
	11:25		.60		
		10		.00	.00
	11:35		.60		
		15		.05	.20
	11:50		.65		
		20		.01	.03
	12:10		.66		
		530		.00	.00
	9:00		.66		
		10		.02	.12
	9:10		.68		
		25		.01	.02
	9:35		.69		
		15		.01	.04
	9:50		.70		
		20		.01	.03
	10:10		.71		
		15		.00	.00
	10:25		.71		
		30		.08	.16
	10:55		.79		
		30		.02	.04
	11:25		.81		

Runoff
G. S. No. 8
June 22-23, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/22/37	7:00A	.00	
	7:40	.80	.000
	7:50	4.54	.001
	8:00	5.70	.002
	8:20	6.59	.004
	8:40	5.88	.007
	9:00	4.22	.009
	9:20	3.06	.011
	9:50	1.80	.012
	10:30	.97	.014
	10:40	2.78	.014
	10:50	4.22	.015
	11:10	4.22	.017
	11:40	5.36	.020
	12:20P	7.53	.025
	12:40	6.77	.028
	1:00	6.53	.031
	1:30	3.48	.034
	2:00	1.26	.036
	3:10	.42	.037
	4:00	.24	.037
	9:00	.01	.038
	10:30	.06	.038
	11:10	1.36	.039
	11:20	2.92	.039
	12:00M	4.54	.042
6/23/37	1:00A	1.80	.046
	2:00	.42	.048
	2:50	.14	.048
	6:00	.03	.049
	5:00P	.00	.049

Runoff
G. S. No. 5
June 22-23, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/22/37	6:40A	.00	
	6:50	.126	.001
	7:00	.225	.003
	7:20	.096	.006
	7:30	.272	.009
	7:40	.424	.013
	7:50	.424	.017
	8:00	.343	.022
	8:10	.159	.025
	8:20	.065	.026
	8:30	.031	.027
	8:50	.0066	.027
	9:20	.0015	.027
	10:10	.0004	.027
	10:20	.008	.028
	10:30	.072	.032
	10:40	.446	.038
	10:50	.240	.042
	11:10	.136	.047
	11:20	.184	.049
	11:30	.403	.052
	11:40	.306	.056
	11:50	.125	.059
	12:00N	.240	.061
	12:10	.308	.064
	12:20	.106	.066
	12:30	.040	.067
	12:50	.010	.068
	1:30	.0015	.068
	3:00	.000	.068
	10:40	.000	.068
	10:50	.080	.068
	11:00	.306	.071
	11:10	.289	.074
	11:20	.147	.077
	11:30	.072	.078
	11:50	.016	.079
6/23/37	12:10A	.049	.080
	12:30	.0016	.080
	1:20	.000	.080

Runoff
G. S. No. 6
June 22, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
6/22/37	7:00A	.00	
	8:00	.046	.001
	8:20	.0082	.002
	9:10	.0024	.002
	10:00	.0015	.002
	10:20	.046	.003
	10:40	.306	.007
	11:00	.115	.011
	11:20	.115	.014
	11:50	.256	.016
	11:50	.088	.020
	12:20P	.088	.023
	12:40	.019	.024
	1:40	.010	.025
	4:00	.0015	.025
	12:00M	.000	.026

	G. S. #2	G. S. #5
Area (acres)	63.2	14.4
Preceding Rain (in.)	.19	.19
date began	6/22/37 6:00 a.m.	6/22/37 6:00 a.m.
duration (hours)	16.17	16.17
Temperature (max. & min.)	60-54	60-54
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	85%
Slope, average (percent)	18-25%	16-25%
maximum	55%	40%
Cover, type	See note	Winter wheat
height (ft.)	" "	1.8 - 2'
date last cultivated	" "	10/3-10/37
Soil loss (tons per acre)	.000	.008
Remarks		

	G.S. #3	G.S. #8
Area (acres)	15.2	762
Preceding Rain (in.)	.19	.19
date began	6/22/37 6:00 a.m.	6/22/37 6:00 a.m.
duration (hours)	16.17	16.17
Temperature (max. & min.)	60-54	60-54
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	85%	75-80%
Slope, average (percent)	15-22%	15-30%
maximum	40%	55-60%
Cover, type	Winter wheat	See note
height (ft.)	1.8-2.0'	" "
date last cultivated	10/3-10/37	" "
Soil loss (tons per acre)	.002	.033
Remarks		

G.S. #2 - 26.6 acres winter wheat, 1.75'-2.0' tall, planted Oct. 1936.
6.3 " spring wheat, 1.0'-1.5' tall, planted May 6, 1937.
7.0 " potatoes not up yet, planted May 20, 1937.
23.3 " peas, .0-.5' tall, planted May 14, 1937.
6.0 " alfalfa, grass, trees, exp. plots, roads, etc.

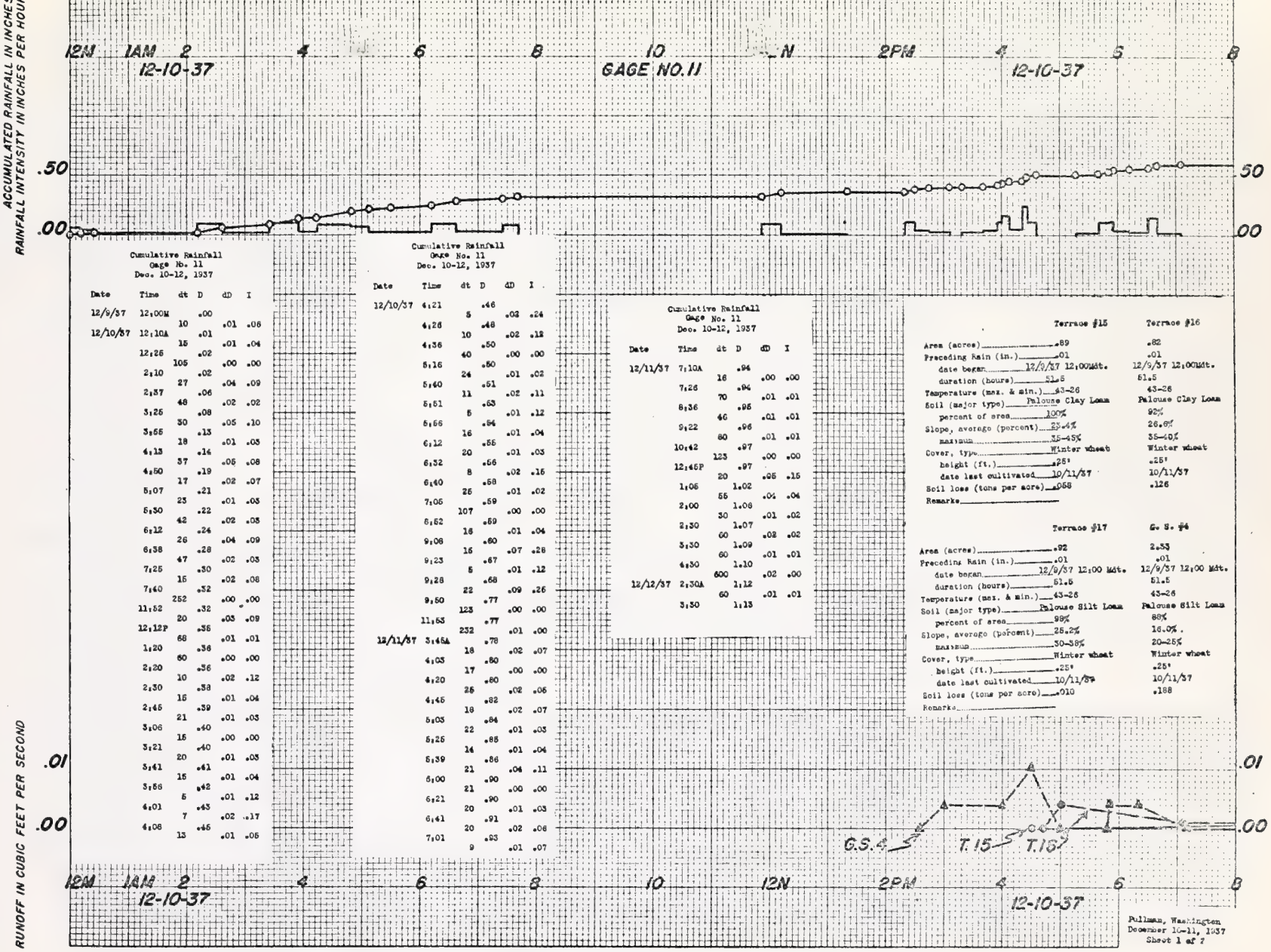
G.S. #8 - Winter wheat 1.75'-2.0' tall, planted Oct. 1936.
Spring wheat 1.0'-1.5' tall, planted May 1937.
Peas 0-.5' tall, planted May 1937.
Summer fallow, no cover. Plowed last of May - first of June 1937.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

STORM No. 11

Plot by MEG date _____ checked by _____ date _____
Computations by MEG date _____ checked by _____ date _____

Pullman, Washington
June 22-23, 1937
Sheet 2 of 2



Cumulative Rainfall
Gage No. 11
Dec. 10-12, 1937

Date	Time	dt	D	dD	I
12/9/37	12:00M		.00		
		10		.01	.06
12/10/37	12:10A		.01		
		15		.01	.04
	12:25		.02		
		105		.00	.00
	2:10		.02		
		27		.04	.09
	2:37		.06		
		48		.02	.02
	3:25		.08		
		30		.05	.10
	3:55		.13		
		18		.01	.03
	4:13		.14		
		37		.06	.08
	4:50		.19		
		17		.02	.07
	5:07		.21		
		23		.01	.03
	5:30		.22		
		42		.02	.03
	6:12		.24		
		26		.04	.09
	6:38		.28		
		47		.02	.03
	7:25		.30		
		15		.02	.08
	7:40		.32		
		252		.00	.00
	11:52		.32		
		20		.03	.09
	12:12P		.35		
		68		.01	.01
	1:20		.36		
		60		.00	.00
	2:20		.36		
		10		.02	.12
	2:30		.38		
		15		.01	.04
	2:45		.39		
		21		.01	.03
	3:06		.40		
		15		.00	.00
	3:21		.40		
		20		.01	.03
	3:41		.41		
		15		.01	.04
	3:56		.42		
		5		.01	.12
	4:01		.43		
		7		.02	.17
	4:08		.45		
		13		.01	.05

Cumulative Rainfall
Gage No. 11
Dec. 10-12, 1937

Date	Time	dt	D	dD	I
12/10/37	4:21		.46		
		5		.02	.24
	4:26		.48		
		10		.02	.12
	4:36		.50		
		40		.00	.00
	5:16		.50		
		24		.01	.02
	5:40		.51		
		11		.02	.11
	5:51		.53		
		5		.01	.12
	5:56		.54		
		16		.01	.04
	6:12		.55		
		20		.01	.03
	6:32		.56		
		8		.02	.15
	6:40		.58		
		25		.01	.02
	7:05		.59		
		107		.00	.00
	8:52		.59		
		16		.01	.04
	9:08		.60		
		15		.07	.28
	9:23		.67		
		5		.01	.12
	9:28		.68		
		22		.09	.26
	9:50		.77		
		123		.00	.00
	11:53		.77		
		232		.01	.00
12/11/37	3:45A		.78		
		18		.02	.07
	4:03		.80		
		17		.00	.00
	4:20		.80		
		25		.02	.06
	4:45		.82		
		18		.02	.07
	5:03		.84		
		22		.01	.03
	5:25		.85		
		14		.01	.04
	5:39		.86		
		21		.04	.11
	6:00		.90		
		21		.00	.00
	6:21		.90		
		20		.01	.03
	6:41		.91		
		20		.02	.06
	7:01		.93		
		9		.01	.07

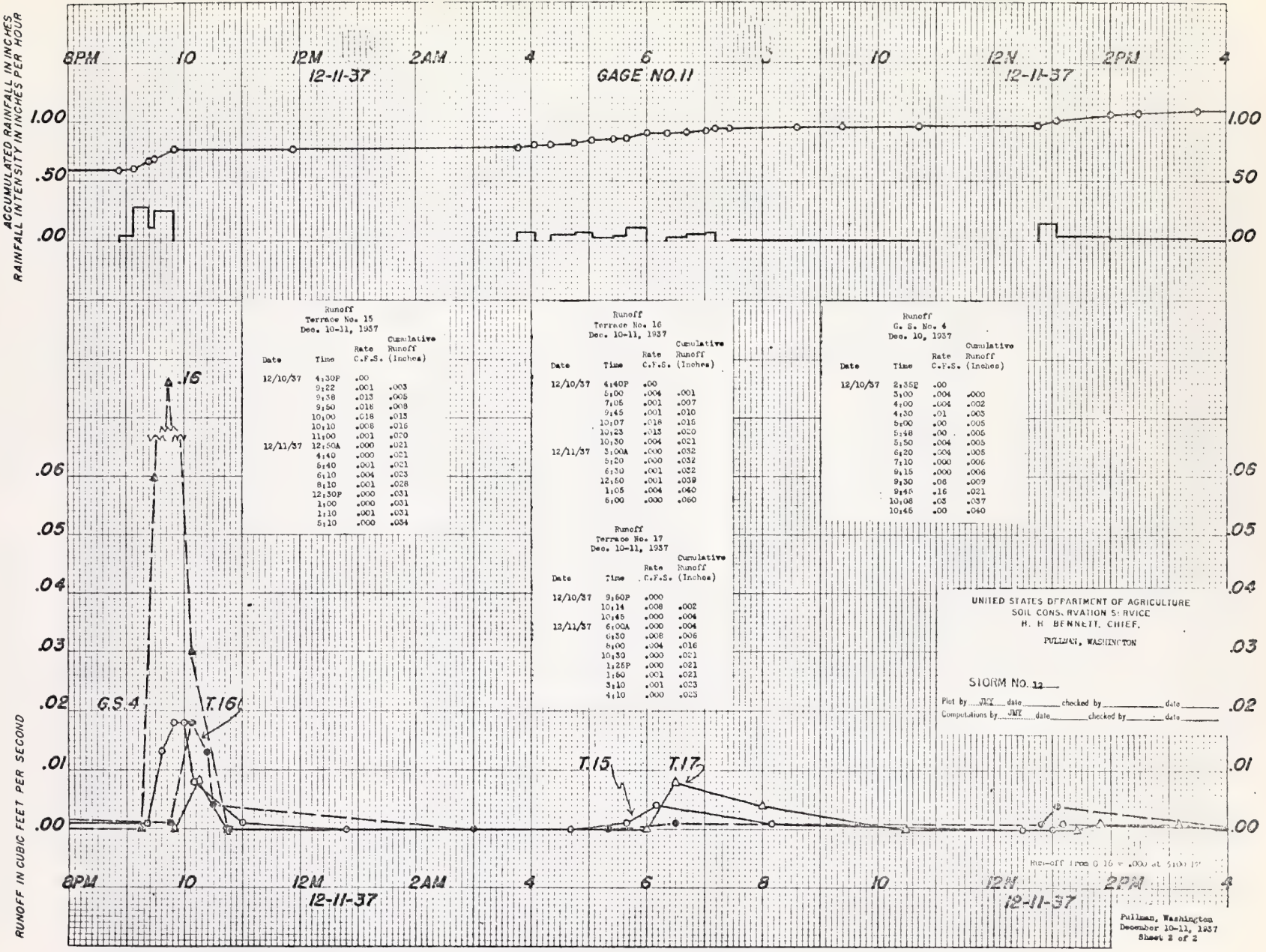
Cumulative Rainfall
Gage No. 11
Dec. 10-12, 1937

Date	Time	dt	D	dD	I
12/11/37	7:10A		.94		
		16		.00	.00
	7:26		.94		
		70		.01	.01
	8:36		.95		
		46		.01	.01
	9:22		.96		
		80		.01	.01
	10:42		.97		
		123		.00	.00
	12:45P		.97		
		20		.05	.15
	1:05		1.02		
		55		.04	.04
	2:00		1.06		
		30		.01	.02
	2:30		1.07		
		60		.02	.02
	3:30		1.09		
		60		.01	.01
	4:30		1.10		
		600		.02	.00
12/12/37	2:30A		1.12		
		60		.01	.01
	3:30		1.13		

	Terrace #15	Terrace #16
Area (acres)	.89	.82
Preceding Rain (in.)	.01	.01
date began	12/9/37 12:00Mdt.	12/9/37 12:00Mdt.
duration (hours)	51.5	51.5
Temperature (max. & min.)	43-26	43-26
Soil (major type)	Palouse Clay Loam	Palouse Clay Loam
percent of area	100%	92%
Slope, average (percent)	25-4%	26.6%
maximum	35-45%	35-40%
Cover, type	Winter wheat	Winter wheat
height (ft.)	.25'	.25'
date last cultivated	10/11/37	10/11/37
Soil loss (tons per acre)	.068	.126
Remarks		

	Terrace #17	G. S. #4
Area (acres)	.92	2.53
Preceding Rain (in.)	.01	.01
date began	12/9/37 12:00 Mdt.	12/9/37 12:00 Mdt.
duration (hours)	51.5	51.5
Temperature (max. & min.)	43-26	43-26
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	98%	88%
Slope, average (percent)	25.2%	16.0%
maximum	30-38%	20-25%
Cover, type	Winter wheat	Winter wheat
height (ft.)	.25'	.25'
date last cultivated	10/11/37	10/11/37
Soil loss (tons per acre)	.010	.188
Remarks		

Pullman, Washington
December 10-11, 1937
Sheet 1 of 7



Runoff
Terrace No. 15
Dec. 10-11, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/10/37	4:30P	.00	
	9:22	.001	.003
	9:38	.013	.005
	9:50	.018	.008
	10:00	.018	.013
	10:10	.008	.016
	11:00	.001	.020
12/11/37	12:50A	.000	.021
	4:40	.000	.021
	5:40	.001	.021
	6:10	.004	.023
	8:10	.001	.028
	12:30P	.000	.031
	1:00	.000	.031
	1:10	.001	.031
	5:10	.000	.034

Runoff
Terrace No. 16
Dec. 10-11, 1937

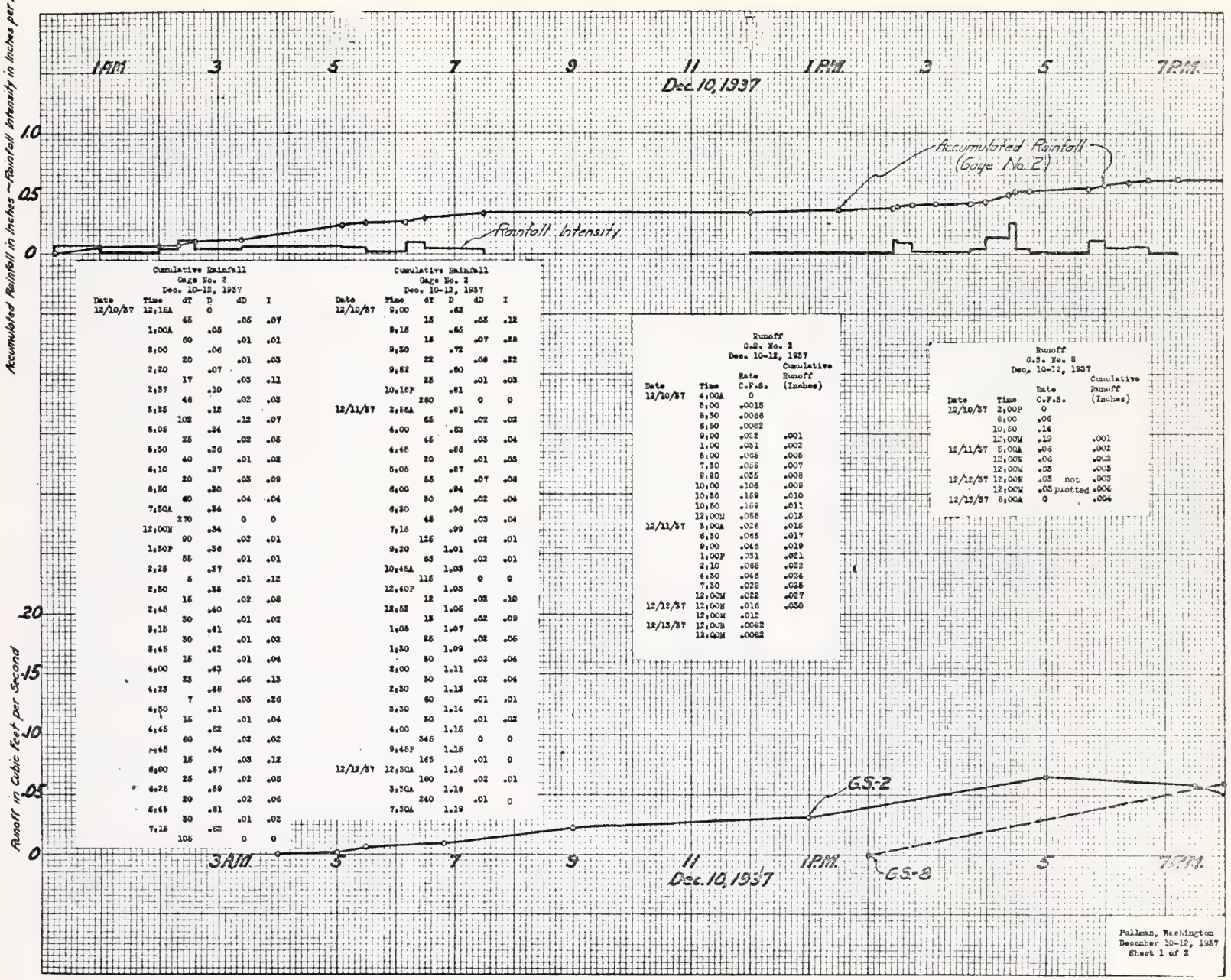
Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/10/37	4:40P	.00	
	5:00	.004	.001
	7:05	.001	.007
	9:45	.001	.010
	10:07	.018	.016
	10:23	.013	.020
	10:30	.004	.021
12/11/37	3:00A	.000	.032
	5:20	.000	.032
	6:30	.001	.032
	12:50	.001	.039
	1:05	.004	.040
	6:00	.000	.060

Runoff
Terrace No. 17
Dec. 10-11, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/10/37	9:50P	.000	
	10:14	.008	.002
	10:45	.000	.004
12/11/37	6:00A	.000	.004
	6:30	.008	.006
	8:00	.004	.016
	10:30	.000	.021
	1:25P	.000	.021
	1:50	.001	.021
	3:10	.001	.023
	4:10	.000	.025

Runoff
G. S. No. 4
Dec. 10, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/10/37	2:35P	.00	
	3:00	.004	.000
	4:00	.004	.002
	4:30	.01	.003
	5:00	.00	.005
	5:48	.00	.005
	5:50	.004	.005
	6:20	.004	.005
	7:10	.000	.006
	9:15	.000	.006
	9:30	.06	.009
	9:46	.16	.021
	10:08	.03	.037
	10:45	.00	.040



Cumulative Rainfall
Gage No. 2
Dec. 10-12, 1937

Date	Time	dT	D	dD	I
12/10/37	12;15A		0		
		45		.05	.07
	1;00A		.05		
		60		.01	.01
	2;00		.06		
		20		.01	.03
	2;20		.07		
		17		.03	.11
	2;37		.10		
		46		.02	.03
	3;23		.12		
		102		.12	.07
	5;05		.24		
		25		.02	.05
	5;30		.26		
		40		.01	.02
	6;10		.27		
		20		.03	.09
	6;30		.30		
		60		.04	.04
	7;30A		.34		
		270		0	0
	12;00N		.34		
		90		.02	.01
	1;30P		.36		
		55		.01	.01
	2;25		.37		
		5		.01	.12
	2;30		.38		
		15		.02	.08
	2;45		.40		
		30		.01	.02
	3;15		.41		
		30		.01	.02
	3;45		.42		
		15		.01	.04
	4;00		.43		
		23		.05	.13
	4;23		.48		
		7		.03	.26
	4;30		.51		
		15		.01	.04
	4;45		.52		
		60		.02	.02
	5;45		.54		
		15		.03	.12
	6;00		.57		
		25		.02	.05
	6;25		.59		
		20		.02	.06
	6;45		.61		
		30		.01	.02
	7;15		.62		
		105		0	0

Cumulative Rainfall
Gage No. 2
Dec. 10-12, 1937

Date	Time	dT	D	dD	I
12/10/37	9;00		.62		
		15		.03	.12
	9;15		.65		
		15		.07	.28
	9;30		.72		
		22		.08	.22
	9;52		.80		
		23		.01	.03
	10;15P		.81		
		280		0	0
12/11/37	2;55A		.81		
		65		.02	.02
	4;00		.83		
		45		.03	.04
	4;45		.86		
		20		.01	.03
	5;05		.87		
		55		.07	.08
	6;00		.94		
		30		.02	.04
	6;30		.96		
		45		.03	.04
	7;15		.99		
		125		.02	.01
	9;20		1.01		
		63		.02	.01
	10;45A		1.03		
		115		0	0
	12;40P		1.03		
		12		.03	.10
	12;52		1.06		
		13		.02	.09
	1;05		1.07		
		25		.02	.06
	1;30		1.09		
		30		.02	.04
	2;00		1.11		
		30		.02	.04
	2;30		1.13		
		60		.01	.01
	3;30		1.14		
		30		.01	.02
	4;00		1.15		
		345		0	0
	9;45P		1.15		
		165		.01	0
12/12/37	12;30A		1.16		
		180		.02	.01
	3;30A		1.18		
		240		.01	0
	7;30A		1.19		

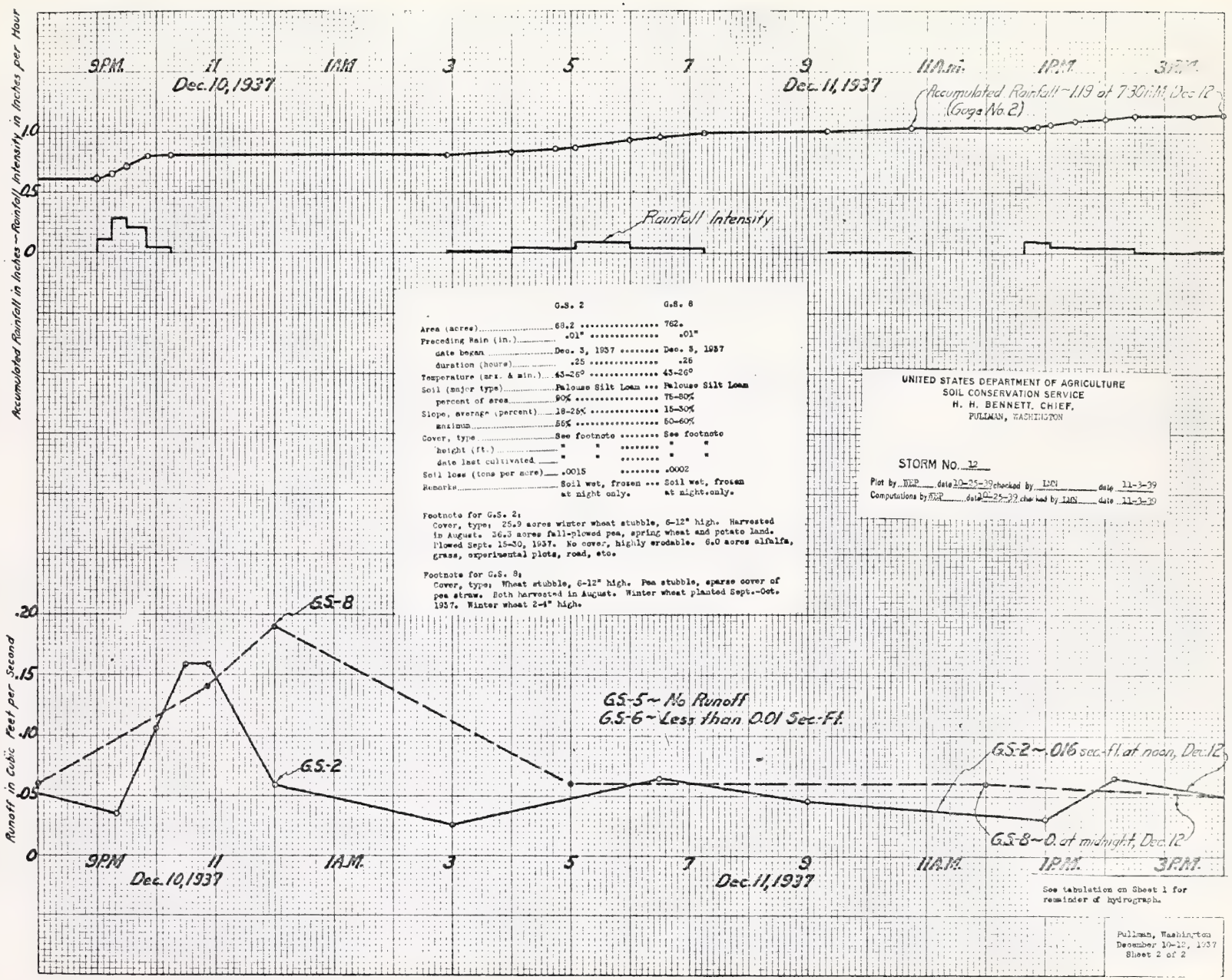
Runoff
G.S. No. 2
Dec. 10-12, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/10/37	4;00A	0	
	5;00	.0015	
	5;30	.0066	
	6;50	.0082	
	9;00	.012	.001
	1;00	.031	.002
	5;00	.035	.005
	7;30	.038	.007
	9;20	.035	.008
	10;00	.108	.009
	10;30	.159	.010
	10;50	.169	.011
	12;00M	.058	.015
12/11/37	3;00A	.026	.016
	6;30	.065	.017
	9;00	.046	.019
	1;00P	.031	.021
	2;10	.066	.022
	4;30	.046	.024
	7;30	.022	.025
	12;00M	.022	.027
12/12/37	12;00N	.016	.030
	12;00M	.012	
12/13/37	12;00N	.0082	
	12;00M	.0082	

Runoff
G.S. No. 8
Dec. 10-12, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/10/37	2;00P	0	
	8;00	.06	
	10;50	.14	
	12;00M	.19	.001
12/11/37	5;00A	.06	.002
	12;00N	.06	.002
	12;00M	.03	.003
12/12/37	12;00N	.03 not	.003
	12;00M	.03 plotted	.004
12/13/37	8;00A	0	.004

Pullman, Washington
December 10-12, 1937
Sheet 1 of 2



	G.S. 2	G.S. 8
Area (acres)	68.2	762.
Preceding Rain (in.)	.01"	.01"
date began	Dec. 3, 1937	Dec. 3, 1937
duration (hours)	.25	.26
Temperature (max. & min.)	43-26°	43-26°
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	75-80%
Slope, average (percent)	18-25%	15-30%
maximum	55%	50-60%
Cover, type	See footnote	See footnote
height (ft.)	" "	" "
date last cultivated	" "	" "
Soil loss (tons per acre)	.0015	.0002
Remarks	Soil wet, frozen at night only.	Soil wet, frozen at night only.

Footnote for G.S. 2:
Cover, type: 25.9 acres winter wheat stubble, 6-12" high. Harvested in August. 26.3 acres fall-plowed pea, spring wheat and potato land. Plowed Sept. 15-30, 1937. No cover, highly erodable. 6.0 acres alfalfa, grass, experimental plots, road, etc.

Footnote for G.S. 8:
Cover, type: Wheat stubble, 6-12" high. Pea stubble, sparse cover of pea straw. Both harvested in August. Winter wheat planted Sept.-Oct. 1937. Winter wheat 2-4" high.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
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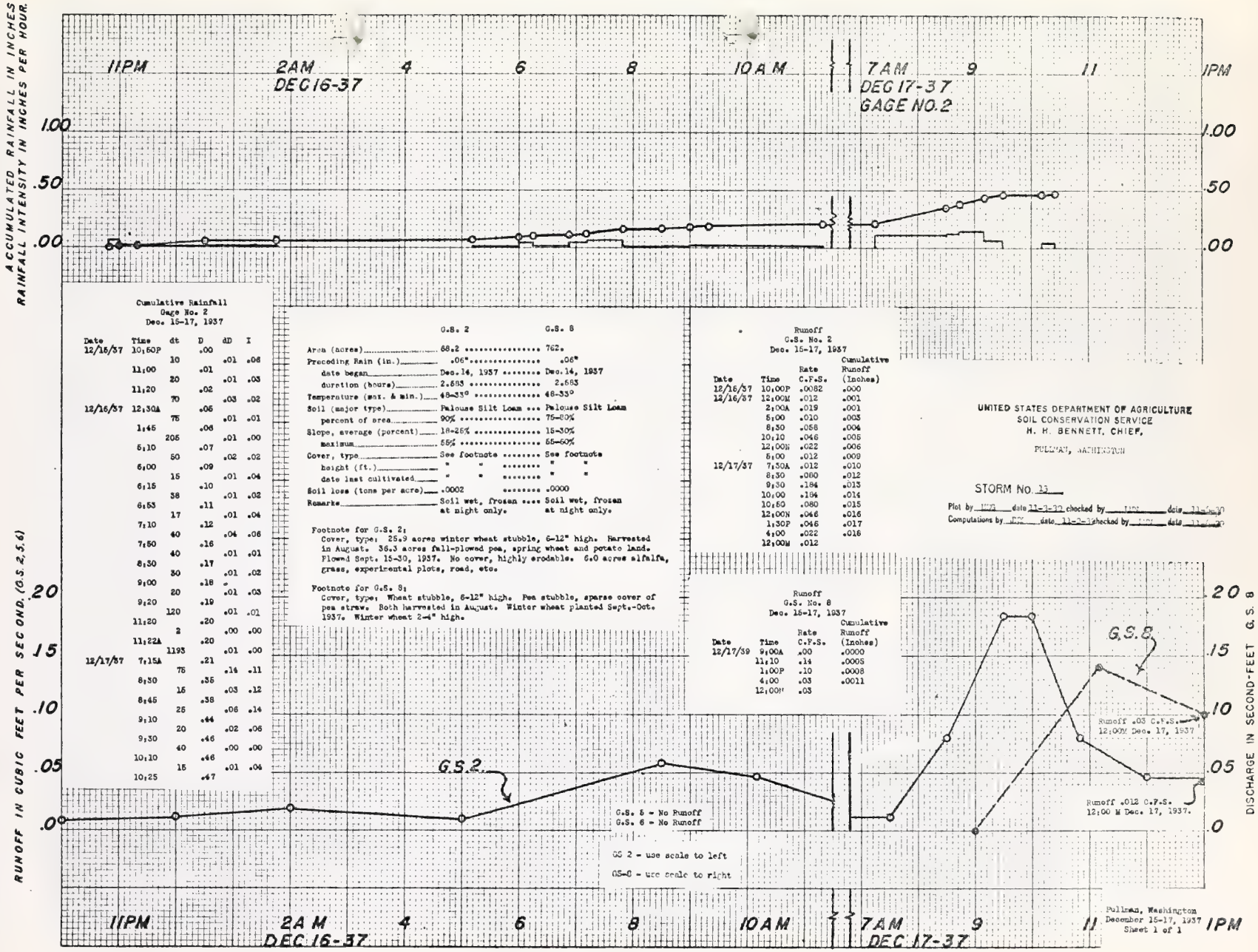
PULLMAN, WASHINGTON

STORM No. 12

Plot by WRP date 10-25-39 checked by LDN date 11-3-39
Computations by WRP date 10-25-39 checked by LDN date 11-3-39

See tabulation on Sheet 1 for remainder of hydrograph.

Pullman, Washington
December 10-12, 1937
Sheet 2 of 2



Cumulative Rainfall
Gage No. 2
Dec. 15-17, 1937

Date	Time	dt	D	dD	I
12/15/37	10,50P		.00		
		10		.01	.06
	11,00		.01		
		20		.01	.03
	11,20		.02		
		70		.03	.02
12/16/37	12,30A		.05		
		75		.01	.01
	1,45		.06		
		205		.01	.00
	5,10		.07		
		50		.02	.02
	6,00		.09		
		15		.01	.04
	6,15		.10		
		38		.01	.02
	6,53		.11		
		17		.01	.04
	7,10		.12		
		40		.04	.06
	7,50		.16		
		40		.01	.01
	8,30		.17		
		30		.01	.02
	9,00		.18		
		20		.01	.03
	9,20		.19		
		120		.01	.01
	11,20		.20		
		2		.00	.00
	11,22A		.20		
		1193		.01	.00
12/17/37	7,15A		.21		
		75		.14	.11
	8,30		.35		
		15		.03	.12
	8,45		.38		
		25		.06	.14
	9,10		.44		
		20		.02	.06
	9,30		.46		
		40		.00	.00
	10,10		.46		
		15		.01	.04
	10,25		.47		

	G.S. 2	G.S. 8
Area (acres)	68.2	762.
Preceding Rain (in.)	.06"	.06"
date began	Dec. 14, 1937	Dec. 14, 1937
duration (hours)	2.583	2.583
Temperature (max. & min.)	48-33°	48-33°
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	75-80%
Slope, average (percent)	18-26%	15-30%
maximum	55%	55-60%
Cover, type	See footnote	See footnote
height (ft.)	" "	" "
date last cultivated	" "	" "
Soil loss (tons per acre)	.0002	.0000
Remarks	Soil wet, frozen at night only.	Soil wet, frozen at night only.

Footnote for G.S. 2:
Cover, type: 25.9 acres winter wheat stubble, 6-12" high. Harvested in August. 36.3 acres fall-plowed pea, spring wheat and potato land. Plowed Sept. 15-30, 1937. No cover, highly erodable. 6.0 acres alfalfa, grass, experimental plots, road, etc.

Footnote for G.S. 8:
Cover, type: Wheat stubble, 6-12" high. Pea stubble, sparse cover of pea straw. Both harvested in August. Winter wheat planted Sept.-Oct. 1937. Winter wheat 2-4" high.

Runoff
G.S. No. 2
Dec. 15-17, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/15/37	10,00P	.0082	.000
12/16/37	12,00M	.012	.001
	2:00A	.019	.001
	5:00	.010	.003
	8:30	.058	.004
	10,10	.046	.005
	12,00N	.022	.006
	5:00	.012	.009
12/17/37	7:30A	.012	.010
	8:30	.080	.012
	9:30	.184	.013
	10,00	.184	.014
	10,50	.080	.015
	12:00N	.046	.016
	1:30P	.046	.017
	4:00	.022	.016
	12:00M	.012	

Runoff
G.S. No. 8
Dec. 15-17, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/17/39	9:00A	.00	.0000
	11:10	.14	.0005
	1:00P	.10	.0008
	4:00	.03	.0011
	12:00M	.03	

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
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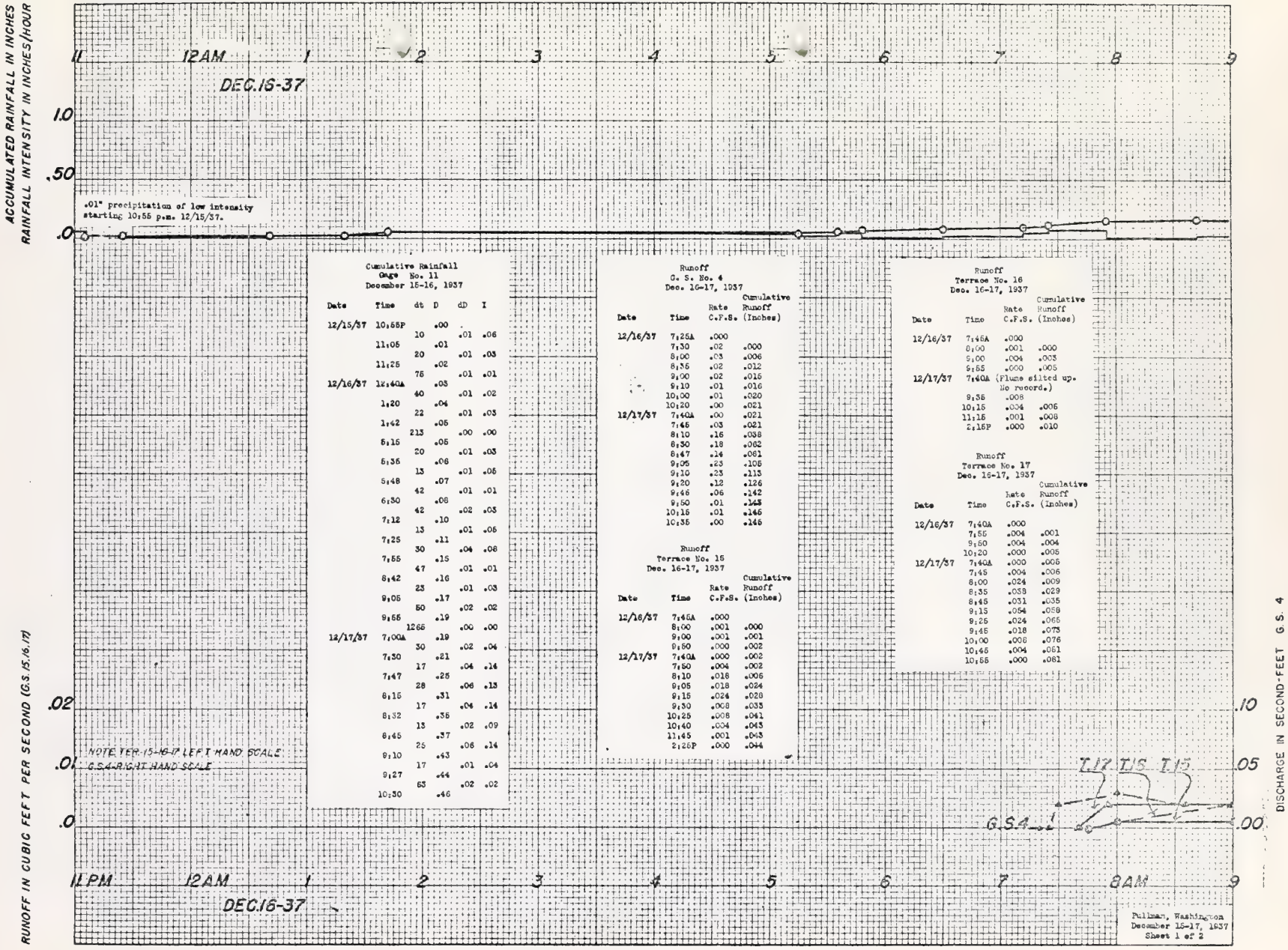
PULLMAN, WASHINGTON

STORM No. 13

Plot by [illegible] date 11-3-37 checked by [illegible] date [illegible]
Computations by [illegible] date 11-2-37 checked by [illegible] date [illegible]

Pullman, Washington
December 15-17, 1937
Sheet 1 of 1



Cumulative Rainfall
Gage No. 11
December 15-16, 1937

Date	Time	dt	D	dD	I
12/15/37	10:55P		.00		
		10		.01	.06
	11:05		.01		
		20		.01	.03
	11:25		.02		
		75		.01	.01
12/16/37	12:40A		.03		
		40		.01	.02
	1:20		.04		
		22		.01	.03
	1:42		.05		
		213		.00	.00
	5:15		.05		
		20		.01	.03
	5:35		.06		
		13		.01	.05
	5:48		.07		
		42		.01	.01
	6:30		.08		
		42		.02	.03
	7:12		.10		
		13		.01	.05
	7:25		.11		
		30		.04	.08
	7:55		.15		
		47		.01	.01
	8:42		.16		
		23		.01	.03
	9:05		.17		
		50		.02	.02
	9:55		.19		
		1265		.00	.00
12/17/37	7:00A		.19		
		30		.02	.04
	7:30		.21		
		17		.04	.14
	7:47		.25		
		28		.06	.13
	8:15		.31		
		17		.04	.14
	8:32		.35		
		13		.02	.09
	8:45		.37		
		25		.06	.14
	9:10		.43		
		17		.01	.04
	9:27		.44		
		63		.02	.02
	10:30		.46		

Runoff
G. S. No. 4
Dec. 16-17, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/16/37	7:25A	.000	
	7:30	.02	.000
	8:00	.03	.006
	8:35	.02	.012
	9:00	.02	.016
	9:10	.01	.016
	10:00	.01	.020
	10:20	.00	.021
12/17/37	7:40A	.00	.021
	7:45	.03	.021
	8:10	.16	.038
	8:30	.18	.062
	8:47	.14	.081
	9:05	.23	.105
	9:10	.23	.113
	9:20	.12	.126
	9:45	.06	.142
	9:50	.01	.143
	10:15	.01	.146
	10:35	.00	.146

Runoff
Terrace No. 16
Dec. 16-17, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/16/37	7:45A	.000	
	8:00	.001	.000
	9:00	.001	.001
	9:50	.000	.002
12/17/37	7:40A	.000	.002
	7:50	.004	.002
	8:10	.018	.006
	9:05	.018	.024
	9:15	.024	.028
	9:30	.008	.033
	10:25	.008	.041
	10:40	.004	.043
	11:45	.001	.043
	2:25P	.000	.044

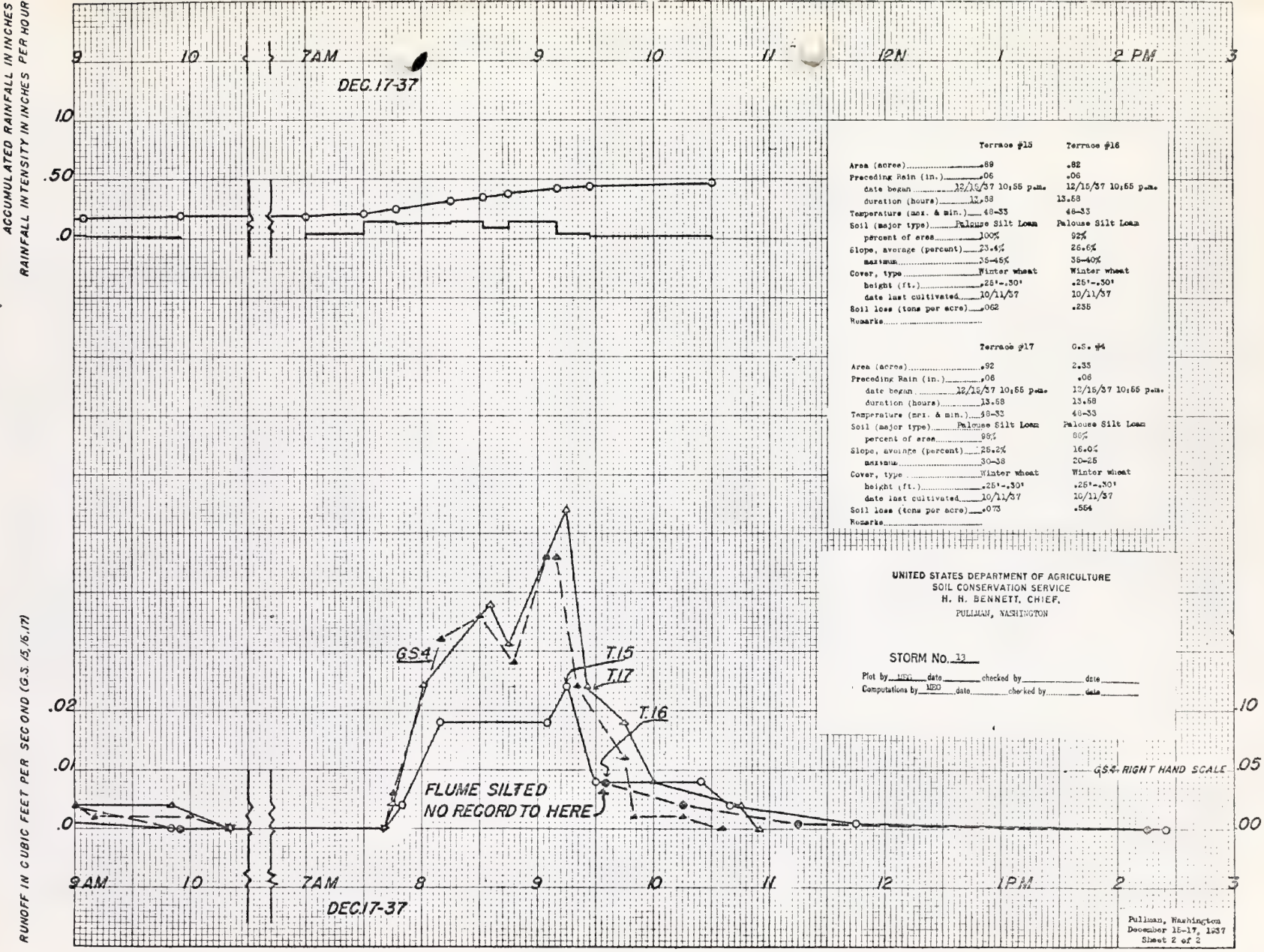
Runoff
Terrace No. 16
Dec. 16-17, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/16/37	7:46A	.000	
	8:00	.001	.000
	9:00	.004	.003
	9:55	.000	.005
12/17/37	7:40A	(Flume silted up. No record.)	
	9:35	.008	
	10:15	.034	.006
	11:15	.001	.008
	2:15P	.000	.010

Runoff
Terrace No. 17
Dec. 16-17, 1937

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/16/37	7:40A	.000	
	7:55	.004	.001
	9:50	.004	.004
	10:20	.000	.005
12/17/37	7:40A	.000	.005
	7:45	.004	.006
	8:00	.024	.009
	8:35	.038	.029
	8:45	.031	.035
	9:15	.054	.058
	9:25	.024	.066
	9:45	.018	.073
	10:00	.008	.076
	10:45	.004	.081
	10:55	.000	.081

Pullman, Washington
December 15-17, 1937
Sheet 1 of 2



	Terrace #15	Terrace #16
Area (acres)	.89	.82
Preceding Rain (in.)	.06	.06
date began	12/15/37 10:55 p.m.	12/15/37 10:55 p.m.
duration (hours)	13.58	13.58
Temperature (max. & min.)	48-33	48-33
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	100%	92%
Slope, average (percent)	23.4%	26.6%
maximum	35-45%	35-40%
Cover, type	Winter wheat	Winter wheat
height (ft.)	.25'-.30'	.25'-.30'
date last cultivated	10/11/37	10/11/37
Soil loss (tons per acre)	.062	.235
Remarks		

	Terrace #17	G.S. #4
Area (acres)	.92	2.33
Preceding Rain (in.)	.06	.06
date began	12/15/37 10:55 p.m.	12/15/37 10:55 p.m.
duration (hours)	13.58	13.58
Temperature (max. & min.)	48-33	48-33
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	98%	86%
Slope, average (percent)	25.2%	16.0%
maximum	30-38	20-25
Cover, type	Winter wheat	Winter wheat
height (ft.)	.25'-.30'	.25'-.30'
date last cultivated	10/11/37	10/11/37
Soil loss (tons per acre)	.073	.564
Remarks		

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
PULLMAN, WASHINGTON

STORM No. 13

Plot by MEO date _____ checked by _____ date _____
Computations by MEO date _____ checked by _____ date _____

Pullman, Washington
December 15-17, 1937
Sheet 2 of 2

Form S. C. S.-315

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project: Pullman, Washington

Month: January, 1938

Sheet 1 of 7 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F) Maximum	Temperature (degrees F) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January									
1/1-9/38	G.S.2	68.2								38	23	240 hours		0.03	0.04	5:20A(1)		0.000	Ground water.
	G.S.5	14.4											No runoff.						
	G.S.6	15.2											"	"					
	G.S.8	762.										240 hours		0.01	0.42	7:30P(2)		0.000	" "
	Ter.15	.98											No runoff.						G.S.2
	Ter.16	.82											"	"					Jan. 1 - May 1938. 30.9 acres
	Ter.17	.92											"	"					wheat stubble immediately
	Ter.18	1.18											"	"					above flume, 31.3 acres winter
	G.S.4	2.33											"	"					wheat, 6 acres miscellaneous
																			plots, etc.
1/10/38			2			0.01	No record.			44	33								
1/12/38			2	8:15A	175	0.17	0.24	0.16	0.10	38	28								Wheat stubble plowed in May
			11	8:05A	145	0.17	0.18	0.12	0.12										for fallow. Winter wheat
			2	12:30P	90	0.05	0.12	0.04	0.04										harvested in August, left as
			11	12:00M	90	0.05	0.12	0.06	0.06										standing wheat stubble through
																			fall and winter.
1/13/38			2			0.16		Snow		41	30								Jan. 1-30, freezing nights,
1/14/38			2			0.28		"		46	33								some thaw during day.
1/15/38			2	9:35A	165	0.07	0.12	0.04	0.04	42	39								
			11	9:30A	160	0.07	0.06	0.04	0.02										
1/10-15/38	G.S.2									46	28	144 hours		0.13				0.029	Melting snow and rain.
	G.S.5													0.00					
1/14-15/38	G.S.6									46	33	8:20A	12:00P	0.01	0.004	12:00P(14)		0.001	" " " "
1/13-15/38	G.S.8									46	30	72 hours		0.05	1.36	11:00P(13)		0.008	" " " "
1/10-15/38	Ter.15									46	28	144 hours		0.14	0.02	8:40P(13)		0.149	" " " "
1/13-15/38	Ter.16									46	30	8:30P	12:00M	0.09	0.02	9:00P(13)		0.336	" " " "
1/10-15/38	Ter.17									46	28			0.03				0.128	Measured in silt box.
	Ter.18												No runoff.						
1/12-15/38	G.S.4									46	28	8:05A	12:00P	0.48	0.32	9:40P(13)		2.505	" " " "
1/16/38			2	3:45P	310	0.06	0.04	0.04	0.02	37	30								
			11	3:45P	300	0.06	0.06	0.04	0.02										
1/17/38			2			0.18		Snow		39	32								
1/18/38			2			0.21		"		39	29								
1/16-27/38	G.S.2	68.2								46	21	288 hours		0.14	0.38	2:20A(22)		0.003	Rain and melting snow.
	G.S.5	14.4												0.00					" " " "
1/16-24/38	G.S.6	15.2								46	21	216 hours		0.04	0.01	3:20A(17)		0.002	
1/16-27/38	G.S.8	762.								46	21	288 "		0.07	3.34	3:00P(22)		0.006	
1/15-23/38	Ter.15	.98								46	21	216 "		0.50	0.03	9:40A(19)		0.403	
1/15-22/38	Ter.16	.82								46	21	12:00M	10:30P	0.37	0.03	2:00A(22)		0.467	
	Ter.17	.92								46	21			0.08				0.221	Measured in silt box.
1/18-23/38	Ter.18	1.18								46	21			0.02				0.013	" " " "
1/16-24/38	G.S.4	2.33								46	21	12:01A	3:10P	0.77	0.16	12:30A(22)		2.500	

Form S. C. S.-343

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month January-February, 1938

Sheet 2 of 7 sheets

Date	Watershed		Rainfall				Maximum Intensity			Temperature (degrees F.)		Run-off			Maximum Rate		Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Cu. ft. sec.	Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January (Continued)									
1/20-21/38			2	9:15P	240	0.09	0.12	0.06	0.06	46	21								Cover G.S. 5, January 1 - April 30 winter wheat stubble rough plowed. May 1-15 seeded to flax, harvested in September.
1/21-22/38			2	11:15P	235	0.21	0.18	0.14	0.08	46	30								
1/28-29/38			2			0.17		Snow		45	20								
1/31/38			2			0.07		Snow		38	16								Cover G.S. 6, January 1 - May, wheat stubble rough and trashy. Plowed Sept. 1937. Harvested August by combine harvester.
1/28-31/38	G.S.2									45	1	96 hours		0.03	0.31	5:20A(28)		0.000	
						G.S. 5, 6, 8, Terraces 15, 16, 17, 18 and G.S. 4 - no runoff.													
										February									
2/1/38			2	4:15P	225	0.23	0.36	0.20	0.18	39	17								Feb. 1-2, rain on snow. Heavy runoff afternoon of Feb. 2, 1938.
2/2/38			2	6:50A	25	0.03	0.08	0.08	0.06	39	17								
2/2-3/38			2	10:00P	240	0.08	0.12	0.04	0.04	43	17								
2/4/38			2			0.06		Snow		38	30								
2/6/38			2			0.54		"		33	27								
2/1-6/38	G.S.2	68.2								43	17	144 hours		0.11	0.18	1:30P(2)		0.005	Very heavy snow on frozen ground. No drifting.
	G.S.5	14.4												0.00					
	G.S.6	15.2												0.00					
	G.S.8	762.										144 hours		0.06	0.97	5:30P(2)		0.004	
	Ter.15	.98												0.05				0.009	Measured in silt box.
2/1-3/38	Ter.16	.82								43	17			0.02				0.000	" " " "
2/1-6/38	Ter.17	.92								43	17			0.00				0.000	
	Ter.18	1.18												0.00				0.000	
	G.S.4	2.33												0.03				0.020	Measured in silt box.
2/7-8/38			2			0.08		Snow		36	27								
2/10/38			2	4:00A	60	0.01	0.01	0.01	0.01	42	27								Feb. 11, southern slopes very nearly bare. Snow on north and northwest in minor drifts.
2/11-12/38			2			1.04		Snow		40	27								
2/18-19/38			2			.12		Snow		34	18								Snow of Feb. 12 piling up due to winds.
2/20/38			2	8:00P	60	0.02	0.02	0.02	0.02	36	26								Feb. 14, terraces 20.3 covered, wind swept. Ground wet. Not frozen. Rain and melting snow.
2/7-20/38	G.S.2	68.2								50	14	528 hours		0.46	0.67	3:10A(11)		0.013	

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTUR
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month February-March, 19 38

Sheet 3 of 7 sheets

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature Maximum (degrees F)	Temperature Minimum (degrees F)	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										February (Continued)									
2/22-28/38	G.S.5	14.4								50	26	4:50P	12:00P	0.02	0.005	12:00M(28)		0.001	Rain and melting snow.
2/7-28/38	G.S.6	15.2								50	14	528 hours		0.14	0.03	9:30P(19)		0.004	" " " "
2/7-28/38	G.S.8	762.										528	"	0.52	3.75	11:10P(11)		0.046	" " " "
2/11-14/38	Ter.15	.98								43	23	6:00P	12:00M	0.29	0.01	12:00P(11)		0.105	" " " "
2/10-28/38	Ter.16	.82								50	14			0.22				0.036	Measured in silt box.
2/8-28/38	Ter.17	.92								50	14			0.19				0.028	" " " "
2/21-28/38	Ter.18	1.18								50	26			0.04				0.003	" " " "
2/10-23/38	G.S.4	2.33								43	14	8:00A		1.42	0.14	9:50P(11)		1.312	" " " "
										March									Heavy snow-drifts on north slopes. Feb. 18, soil very wet. Feb. 23, watersheds 50-70% covered. Feb. 28, only snow-drifts remain.
3/1/38			2	8:05A	240	0.11	0.12	0.08	0.06	44	30								
3/2/38			2	6:50P	175	0.16	0.12	0.12	0.08	46	30								
3/5/38			2	12:50A	335	0.20	0.36	0.20	0.14	42	32								
			2	12:00M	180	0.02	0.12	0.04	0.02										
3/1-5/38	G.S.2									49	30	120 hours		0.11	0.40	9:10P(2)		0.004	
	G.S.5											120	"	0.05	0.02	9:00P(5)		0.002	
	G.S.6											120	"	0.04	0.02	9:00P(5)		0.001	
	G.S.8											120	"	0.14	5.24	9:50P(2)		0.009	
	Ter.15													0.06				0.051	Measured in silt box.
	Ter.16													0.06				0.049	" " " "
	Ter.17													0.04				0.078	" " " "
	Ter.18													0.02				0.003	" " " "
3/5/38	G.S.4									42	32	4:00P	8:00P	0.02	0.06	4:20P		0.016	
3/9/38			2	3:27P	7	0.06	0.54	0.24	0.12	48	31								March 10, soil drying.
3/12/38			2	3:30A	90	0.02	0.03	0.02	0.01	58	42								
3/13/38			2	1:00A	260	0.04	0.12	0.08	0.08	51	43								
			2	1:20P	35	0.06	0.36	0.16	0.08										
3/14/38			2	12:30P	665	0.29	0.12	0.08	0.08	45	35								
3/15/38			2	4:30P	310	0.19	0.12	0.08	0.06	47	32								Terraces and G.S. 4, planted to winter wheat on trashy fallow Sept. 1937. Wheat offers little cover until March 14 when tillering began.
3/16/38			2	3:30A	255	0.07	0.12	0.08	0.06	39	32								
3/17-18/38			2			0.84		Snow		41	29								
3/19/38			2	8:00A	20	0.01	0.03	0.03	0.03	38	31								
3/20/38			2			0.05		Snow		37	25								
3/22/38			2			0.08		"		40	27								

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month March-April, 19 38

Project Pullman, Washington

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Sheet 4 of 7 sheets

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
							Maximum Intensity								Maximum Rate				
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Cu. ft. sec.	" Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										March (Continued)									
3/6-22/38	G.S.2	68.2								58	24	408 hours		0.52	0.76	4:00P(18)		0.019	March 25, practically all
	G.S.5	14.4										408	"	0.34	0.62	10:30P(19)		0.014	snow gone. Runoff mostly
	G.S.6	15.2										408	"	0.31	0.09	6:00A(19)		0.029	seepage.
	G.S.8	762.										408	"	0.65	10.70	5:30P(18)		0.098	
3/18-22/38	Ter.15	.98								41	24	12:00M	3:00P	0.74	0.10	9:20A(20)		0.724	G.S. 8 contains sufficient
	Ter.16	.82										11:30A	2:00P	1.07	0.04	5:00P(18)		0.961	number of fields with peas,
	Ter.17	.92										11:00A	1:50P	0.29	0.01	12:00M(20)		0.273	wheat stubble, fallow and
	Ter.18	1.18												0.04	Measured in silt box.			0.022	wheat to make condition of
3/4-22/38	G.S.4	2.33								47	24	8:00A	2:45P	0.90	0.10	3:00P(18)		0.563	watershed average from year to
																			year.
3/24/38			2	7:30A	15	0.04	0.12	0.12	0.08	47	34								
3/23-4/3/38	G.S.2									56	24	288 hours		0.17	0.40	9:30A(23)		0.026	Most tillage rough trashy,
	G.S.5											288	"	0.15	0.04	9:00A(23)		0.003	done on contour. All harvest-
	G.S.6											288	"	0.15	0.06	12:00M(23)		0.005	ing done by combine harvester
	G.S.8											288	"	0.19	5.74	10:30A(23)		0.015	during August. Fall tillage
3/23-24/38	Ter.15									49	30	11:00A	9:50A	0.34	0.01	2:00P(23)		0.357	and planting Sept. and Oct.
	Ter.16											11:30A	9:40A	0.32	0.03	1:00P(23)		0.491	
	Ter.17											11:00A	9:30A	0.05	0.004	1:00P(23)		0.042	
	Ter.18													0.02	Measured in silt box.			0.005	
3/23/38	G.S.4									49	30	9:10A	5:00P	0.06	0.04	9:40A(23)		0.020	
										April									
4/4/38			2	8:45A	460	0.21	0.12	0.08	0.04	42	35								
4/9/38			2			0.01	No record.			60	37								
4/4-11/38	G.S.2									68	29	192 hours		0.28	0.04	2:50P(4)		0.001	
4/4-8/38	G.S.5									51	32	12:01A	3:00A	0.01	0.01	12:01A(4)		0.001	
4/4-11/38	G.S.6									58	29	192 hours		0.04	0.02	2:10P(4)		0.000	
	G.S.8											192 "		0.05	1.66	2:50P(4)		0.000	
										Terraces 15, 16, 17, 18, and G.S. 4, no runoff.									
4/12/38			2	6:10A	350	0.13	0.06	0.04	0.04	43	40								
4/13/38			2	2:15P	30	0.02	0.04	0.04	0.04	53	32								
4/15/38			2	6:15P	30	0.02	0.04	0.04	0.04	56	37								April 15, top 1/2" spilling
4/12-15/38	G.S.2									56	31	96 hours		0.03	0.05	11:00A(12)		0.000	but still wet at plow depth.
	G.S.5													0.00				0.000	
	G.S.6											96 "		0.01	0.004	12:00M(12)		0.000	
	G.S.8											96 "		0.01	0.22	1:00P(12)		0.000	
										Terraces 15, 16, 17, 18, and G.S. 4, no runoff.									

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month April-May-June, 1938

Project Pullman, Washington

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Sheet 5 of 7 sheets

Date	Watershed		Rainfall							Temperature (degrees F)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	Maximum Intensity: 15 minutes (inches per hour)	Maximum Intensity: 30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										April (Continued)									
4/16/38			2	12:30A	480	0.17	0.06	0.04	0.04	57	44								
			2	3:10P	25	0.02	0.12	0.06	0.04										
			2	8:00P	130	0.07	0.12	0.06	0.04										
4/17/38			2	1:15A	230	0.15	0.06	0.06	0.06	58	46								
			2	7:40A	25	0.02	0.05	0.05	0.05										
			2	1:45P	105	0.08	0.12	0.12	0.10										
			2	5:45P	195	0.04	0.12	0.06	0.04										
4/18/38			2	5:00A	210	0.06	0.04	0.04	0.04	52	44								
4/16-30/38	G.S.2									73	30	360 hours		0.10	0.16	3:30P(17)		0.000	
4/17-20/38	G.S.5									58	30	2:00A	4:00A	0.01	0.01	8:20A(18)		0.001	
4/16-30/38	G.S.6									73	30	360 hours		0.15	0.01	10:00A(17)		0.000	
4/16-30/38	G.S.8											360 "		0.05	1.03	4:15P(17)		0.000	
										Terraces 15, 16, 17, 18 and G.S.4, no runoff.									
										May									
5/4/38			2			0.02	No record			50	32								
5/8/38			2			0.02	"	"		60	40								
5/11/38			2	1:50A	320	0.27	0.12	0.08	0.08	67	45								
5/17/38			2	1:00P	345	0.37	0.18	0.14	0.08	50	42								
5/27/38			2			0.02	No record			77	58								
5/28/38			2	12:45A	605	0.17	0.12	0.08	0.06	67	48								
5/1-17/38	G.S.2									72	30	408 hours		0.03	0.08	5:20A(17)		0.000	
	G.S.5													0.00				0.000	
	G.S.6											408 "		0.01	0.002	7:00A(11)		0.000	
	G.S.8											408 "		0.01	0.125	8:15A(11)		0.000	
										Terraces 15, 16, 17, 18 and G.S.4, no runoff.									
5/18-21/38	G.S.2									73	36	12:01A	1:00P	0.01	0.02	12:01A(18)		0.000	
	G.S.5													0.00					
5/18-28/38	G.S.6									83	36	12:01A	12:00M	0.00	0.0001	12:00M(18)			
5/18-28/38	G.S.8									80	36	12:01A	12:00P	0.00	0.09	8:00A(18)			
										June									
6/1-15/38										84	35		No runoff.						Installations removed on terraces and gaging station 4 at end to spring runoff. Soil loss measurements discontinued at the same time.
6/15/38			2			0.03	No record			77	41		" "						
6/16/38			2	8:55P	150	0.08	0.12	0.12	0.06	60	52		" "						
6/16/38			2	12:20P	70	0.09	0.16	0.16	0.12	60	52		" "						
6/17/38			2	6:50A	150	0.20	0.12	0.08	0.08	48	41		" "						
6/17-18/38			2	11:35P	310	0.41	0.33	0.24	0.18	63	41		" "						
6/19/38			2	2:50A	375	0.14	0.12	0.06	0.04	67	46		" "						
6/22/38			2			0.02	No record.			76	54		" "						
			2	10:03P	17	0.06	0.48	0.24	0.12										
6/25/38			2	3:45A	105	0.02	0.01	0.01	0.01	79	59		" "						

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month July-August-September October-November, 1938

Project Pullman, Washington

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Sheet 6 of 7 sheets

Days	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	Maximum Intensity: 15 minutes (inches per hour)	Maximum Intensity: 30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										July									
7/1/38			2	4:00P	105	0.04	0.04	0.04	0.02	62	52	No runoff.							
7/4/38			2	1:10P	110	0.08	0.12	0.08	0.08	64	49	"	"						
7/8/38			2	2:30A	240	0.11	0.12	0.08	0.04	77	58	"	"						
7/8/38			2	9:55A	95	0.03	0.12	0.08	0.08	77	58	"	"						
										August									
8/14/38			2			0.01		No record.		71	48	"	"						
8/17/38			2	2:30P	60	0.04	0.08	0.08	0.06	64	58	"	"						
										September									
9/7/38			2	8:30A	90	0.08	0.12	0.08	0.06	57	44	"	"						
9/8/38			2	2:30A	364	0.43	0.12	0.12	0.10	63	48	"	"						
9/29/38			2			0.02		No record		76	52	"	"						
			2	6:43P	172	0.32	0.36	0.28	0.22			"	"						
										October									
10/1-2/38			2	10:00P	160	0.04	0.04	0.02	0.02	79	47	"	"						
10/2-3/38			2	9:00P	172	0.43	0.36	0.28	0.18	76	51	"	"						
10/5/38			2			0.02		No record.		60	51	"	"						
10/5/38			2	6:15A	60	0.01	0.01	0.01	0.01	49	43	"	"						
10/10-11/38			2	6:15P	354	0.53	0.84	0.32	0.16	68	44	"	"						
10/11/38			2	4:05A	120	0.06	0.12	0.10	0.08	54	44	"	"						
10/11/38			2	12:30P	30	0.03	0.12	0.06	0.06	54	44	"	"						
10/12/38			2	5:40P	95	0.05	0.12	0.08	0.06	65	44	"	"						
10/13/38			2	2:15A	240	0.19	0.12	0.12	0.08	52	40	"	"						
10/15/38			2	12:01A	130	0.06	0.04	0.04	0.04	43	36	"	"						
10/29/38			2	5:15A	400	0.35	0.24	0.19	0.08	49	44	"	"						
10/30/38			2	5:15P	210	0.06	0.36	0.12	0.06	56	40	"	"						
										November									
11/1/38			2	3:45A	150	0.07	0.12	0.07	0.03	45	34	"	"						Nov. 21, very little snow left on ground. Drifts on north and northeast slopes. Nov. 22-30, freeze at night, thaw during day.
			2	10:45A	300	0.07	0.04	0.04	0.04			"	"						
11/1-2/38			2	7:15P	195	0.04	0.06	0.04	0.02	49	34	"	"						
11/2/38			2	4:05A	150	0.05	0.02	0.02	0.02	49	36	"	"						
11/3/38			2	12:01A	390	0.46	0.24	0.16	0.16	52	36	"	"						
11/3/38			2	2:10P	6	0.08	0.84	0.32	0.16	52	36	"	"						
11/4/38			2	3:30P	225	0.06	0.04	0.04	0.04	42	34	"	"						
11/5/38			2			0.01		No record.		40	27	"	"						
11/8/38			2			0.01		" "		40	31	"	"						
11/9-10/38			2			0.50		Snow		43	30	"	"						
11/12-13/38			2			0.44		"		35	11	"	"						

Form S. C. S.-345

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month November-December 1938

Project Pullman, Washington

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Sheet 7 of 7 sheets

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
							Maximum Intensity								Maximum Rate				
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Cu ft. sec	Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										November (Continued)									
11/14-15/38			2	10:20P	150	0.26	0.24	0.14	0.14	46	25		No runoff.						
11/16/40			2	5:00A	90	0.02	0.01	0.01	0.01	47	33		" "						
11/16/40			2	2:00P	60	0.06	0.46	0.24	0.14	47	33		" "						
11/3-18/38	G.S.2	68.2								52	11	4:00A	12:00P	0.06	0.20	3:20P(16)			
	G.S.5	14.4												0.00					
	G.S.6	15.2												0.00					
	G.S.8	762.												0.00					
11/19-30/38			2			0.21		Snow		47	27								
11/19-23/38	G.S.2									47	15	120 hours		0.02	0.12	10:50P(19)			Nov. 21, very little snow left
	G.S.5													0.00					on ground. Drifts on north
	G.S.6													0.00					and northeast slopes.
	G.S.8													0.00					Nov. 22-30, freeze at night,
11/24-25/38										44	16		No runoff.						thaw during day.
11/30/38			2	12:00M	65	0.05	0.12	0.08	0.08	43	33								
			2	10:45P	65	0.01	0.03	0.03	0.02										
11/29-12/2	G.S.2									45	32	7:00A	7:00P	0.01	0.04	1:00P(1)			
										December									
12/1/38			2	7:45P	15	0.02	0.24	0.08	0.04	45	36								Dec. 1-2, very little freezing.
12/2/38			2	8:00A	450	0.48	0.18	0.12	0.10	45	32								
			2	4:57P	40	0.05	0.36	0.12	0.10										
12/4/38			2	1:10A	350	0.15	0.18	0.08	0.05	46	31								
12/4-5/38			2	11:50P	105	0.17	0.24	0.16	0.05	46	31								
12/6/38			2	8:00P	105	0.02	0.01	0.01	0.01	43	32								
12/3-10/38	G.S.2									55	27	6:00A	4:00P	0.05	0.27	1:00P(5)			
										G.S. 5, 6, 8, no runoff.									
12/10/22/38										G.S. 2, 5, 6, 8, no runoff.									Dec. 10, ground froze 1" to 1½"
12/19/38			2			0.01		Snow		30	20								deep.
12/21/38			2			0.20		"		30	20								Dec. 11-23, frost down to 3 to
12/22-23/38			2			0.15		"		39	16								4" deep.
12/27/38			2			0.20		"		40	16								Dec. 26, 27, ground frozen hard
12/27/38			2	10:00P	120	0.04	0.04	0.04	0.02	40	16								about 3".
12/29/38			2	1:00A	90	0.03	0.04	0.04	0.02	43	33								Dec. 28, frost nearly all gone
12/25-31/38	G.S.2									52	12	8:00A	12:00P	0.06	0.26	11:50A(28)			by afternoon on south slopes.
												(No other runoff.)							Dec. 29, forst about gone on
																			south slopes, frost on north
																			slopes 1 to 1½" deep.
																			Dec. 30-31, freeze at night,
																			thaw during day.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

PROJECT Pullman, Washington

MONTH January, 19 39

SHEET 1 OF 5 SHEETS

Date	Watershed Number	Watershed Area (acres)	Rainfall Gage No.	Rainfall Began (hour)	Rainfall Duration (minutes)	Rainfall Amount (inches)	Maximum Intensity 5 minutes (inches per hour)	Maximum Intensity 15 minutes (inches per hour)	Maximum Intensity 30 minutes (inches per hour)	Temperature (degrees F.) Maximum	Temperature (degrees F.) Minimum	Run-off Began (hour)	Run-off Ended (hour)	Run-off Amount (inches)	Maximum Rate Cu. ft. sec.	Maximum Rate Time	Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										January 1939									
1/1	G.S.2	68.2	2			0.00				55	38	24 hours		0.017	0.072	12 PM	(12/31/38)		Jan. 1-4, approximately 1-2"
	G.S.5	14.4								55	38			No runoff					frost in ground.
	G.S.6	15.2								55	38			" "					
	G.S.8	762								55	38	24 hours		0.000	0.026	12 PM	(12/31/38)		
1/2			2	5 AM	120	0.16	0.12	0.12	0.10	47	37								
1/2			2	9:20PM	80	0.09	0.12	0.10	0.10										
1/3			2	1:25AM	40	0.06	0.24	0.14	0.12	40	35								
1/4-5			2	Snow & rain		0.12				37	29								Jan. 4-17, freeze at night,
1/2-8	G.S.2									47	29	168 hours		0.098	0.76	6:25AM	(2)		thaw during day. Practically no snow cover.
	G.S.5													No runoff					
1/3	G.S.6									40	35	3 AM	10:30AM	0.000	0.001	6 AM			
1/2-8	G.S.8									47	29	168 hours		0.001	0.147	10 AM	(2)		
1/7-8			2	Snow		0.14				37	30								
1/9			2	No record		0.01				36	30								
1/13			2	Snow		0.13				39	27								
1/15-16			2	"		0.01				36	28								
1/17			2	"		0.23				42	29								Jan. 17-Feb. 1, frost going
1/17			2	3:10PM	20	0.02	0.06	0.06	0.04	42	29								deeper.
1/9-16	G.S.2									41	27	12 PM	4 PM	0.048	0.147	10:10AM	(13)		Cover for G.S. 2
	G.S.5													No runoff					Jan. 1 - April 6, 1939
	G.S.6																		40.4 acres winter wheat seeded
	G.S.8											192 hours		0.015	0.052	7 AM	(12)		Oct. 1938.
1/18			2	11:10AM	80	0.04	0.08	0.08	0.06	43	28								12.6 acres rough plowed fall 1938.
1/18			2	3:10PM	60	0.04	0.09	0.04	0.04	43	28								15.0 acres exp. plots, grass,
1/17-23	G.S.2									45	24	12 M	6 PM	0.061	0.197	12:45PM	(18)		trees and roads.
	G.S.5													No runoff					Cover for G.S. 5
1/17-19	G.S.6									45	28	7 PM	11:20PM	0.003	0.005	12 PM	(18)		Jan. 1 - Apr. 15, 1939
1/17-23	G.S.8									45	24	144 hours		0.004	0.159	5 PM	(18)		Flax stubble rough plowed
1/24			2	5:30PM	60	0.03	0.03	0.03	0.03	41	29								Sept. 1938.
1/27			2	Snow		0.15				40	30								Cover for G.S. 6
1/28-29			2	Snow		0.10				42	28								Wheat stubble rough plowed
																			Sept. 1938.
1/24-31	G.S.2									42	23	8 AM	12 PM	0.071	0.197	2:10PM	(28)		
	G.S.5									42	23			No runoff					
1/28-29	G.S.6									42	28	3:30PM	12 PM	0.001	0.002	12 PM	(28)		
1/24-31	G.S.8									42	23	192 hours		0.003	0.040	4:30PM	(28)		

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month Feb. - Mar., 1939

Project Pullman, Washington

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Sheet 2 of 5 sheets

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										February 1939									
2/3-4			2	Snow		0.19				35	20								
2/4-7			2	"		0.95				38	22								
2/7-8			2	"		0.07				31	7								
2/9-10			2	"		0.02				26	-15								
2/10-11			2	"		0.40				40	- 2								
2/11-12			2	6:15PM	650	0.62	0.24	0.16	0.14	40	0								
2/1-12	G.S.2	68.2								40	-15	288 hours		0.370	1.71	9 AM (12)			Runoff from accumulated snow followed by rain.
	G.S.5	14.4												No runoff					
2/12	G.S.6	15.2								37	14	12 hours		0.004	0.007	10 PM			
2/1-12	G.S.8	762										288 hours		0.009	0.445	12 M (12)			
2/14			2	2:30AM	260	0.08	0.02	0.02	0.02	41	30								
2/14-15			2	Snow & rain		0.84				41	30								
2/18			2		4	0.02	0.24	0.08	0.04	44	30								
2/24-25			2	Snow		0.37				42	25								
2/27			2	"		0.40				34	24								
2/13-28	G.S.2									44	18	384 hours		0.933	1.06	2:35AM (15)			Melting snow and rain.
3/15-25	G.S.5									44	19	12 M	3:20AM	0.030	0.147	3:20PM (18)			
2/12-24	G.S.6									44	19	12 PM	11 PM	0.023	0.035	1 AM (15)			
2/13-28	G.S.8									44	18	384 hours		0.338	1.88	3:35AM (15)			
										March 1939									
3/3-4			2	Snow		0.19				32	22								
3/5-6			2	"		0.63				36	12								
3/8-9			2	"		0.03				38	20								
3/11			2	3:15AM	240	0.17	0.12	0.08	0.08	38	31								
3/11-12			2	Snow		1.19				38	31								
3/12			2	11:30AM	165	0.08	0.12	0.10	0.08	36	31								
3/1-10	G.S.2									41	12	240 hours		0.099	0.106	6 PM (10)			March 10-30
	G.S.5													No runoff					Runoff of continuous character
3/10	G.S.6									41	29	2 PM	12 PM	0.000	0.002	7 PM (10)			from thaw and rain.
3/1-10	G.S.8									41	12	240 hours		0.079	0.515	6 PM (10)			Soil saturated.
										38	31								
3/11-12	G.S.2									38	31	48 hours		0.215	0.760	4:20PM (12)			
3/11-12	G.S.5									38	31	5:40AM	12 PM	0.005	0.005	4:30PM (12)			
3/11-12	G.S.6									38	31	48 hours		0.023	0.010	12 M (11)			
	G.S.8									38	31	48 hours		0.181	5.84	2:30PM (12)			

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

Month Mar., Apr., & May, 19 39

Project Pullman, Washington

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Sheet 3 of 5 sheets

Date	Watershed		Rainfall							Temperature (degrees F)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										March 1939 (Continued)									
3/13-14			2	No record		0.01				38	26								
3/15-16			2	Snow		0.10				40	28								
3/16-17			2	No record		0.03				43	29								
3/13-15	G.S.2	68.2								39	26	72 hours		0.145	0.211	2:30PM	(14)		
3/12-15	G.S.5	14.4								39	26	12 PM	8 PM	0.022	0.022	12 M	(13)		
3/12-15	G.S.6	15.2								39	26	12 PM	8 PM	0.012	0.010	12 PM	(12)		
3/13-15	G.S.8	762								39	26	72 hours		0.154	2.68	2 PM	(13)		
3/16-31	G.S.2									68	28	384 hours		0.572	0.760	1:20PM	(18)		
3/15-29	G.S.5									68	28	12 PM	12:20PM	0.600	0.272	2:30PM	(17)		
3/16-31	G.S.6									68	28	6 AM	12 PM	0.670	0.256	11:30AM	(19)		
	G.S.8									68	28	384 hours		1.130	14.24	2:30PM	(18)		
										April 1939									
4/9			2	No record		0.02				60	38								
4/12			2	Snow		0.13				40	32								
4/25			2	4 AM	105	0.10	0.12	0.12	0.10	54	36								
3/31-4/26	G.S.2									73	26	12 PM	10 PM	0.049	0.240	10:05AM	(12)		G.S. 2 April 6 Winter wheat making nice growth .2-.4' high. Soil wet to moist.
	G.S.5									73	26			No runoff					
3/21-4/20	G.S.6									72	26	12 PM	12 M	0.014	0.002	5 PM	(12)		
4/1-30	G.S.8									72	26	720 hours		0.102	0.760	5:30PM	(12)		
										May 1939									
5/1-15	G.S.8					0.00				87	30	380 hours		0.006	0.008	5/6-10			
							No runoff on other gaging stations.												
5/16			2	9:30AM	125	0.09	0.18	0.08	0.08	58	52								
5/17			2	No record		0.01				56	44								
			2	11:30AM	145	0.07	0.24	0.12	0.16	56	44								
5/18			2	8:50PM	240	0.25	0.16	0.16	0.08	61	39								
5/21			2	10:30AM	70	0.04	0.06	0.04	0.04	57	44								May 23, 1939 Tillage and seeding operations beginning on G.S. 8, 6, 5 and 2. G.S. 8, typical farming. G.S. 6, seeded to peas. G.S. 5, seeded to flax and sweet clover. G.S. 2, 6 acres seeded to peas, rest fallow, plots, trees, etc.
			2	5:25PM	170	0.06	0.12	0.04	0.04	57	44								
5/23			2	2:40AM	10	0.01	0.06	0.04	0.02	67	43								
5/26			2	3:30AM	240	0.15	0.12	0.08	0.08	72	52								
5/29			2	9 AM	15	0.02	0.08	0.08	0.04	67	59								
5/17-23	G.S.8									67	39	7 PM	5 PM	0.001	0.052	6 AM	(22)		
							No runoff occurred on other gaging stations.												

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

Project Pullman, Washington

Month Jun., Jul., Sept., Nov., Dec. 19 39

Sheet 4 of 5 sheets

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										June 1939									
6/3			2	9 PM	50	0.06	0.18	0.08	0.04	71	43				No runoff				
6/8			2	3:30PM	240	0.05	0.06	0.04	0.02	60	38				ditto				
6/15			2	12 Noon	90	0.04	0.06	0.04	0.03	64	47				"				
6/18-19			2	9:30PM	420	0.08	0.04	0.04	0.02	65	44				"				
										July 1939									
7/3			2	2:30AM	720	0.42	0.12	0.12	0.08	61	51				"				August 5 - Sept. 10, 1939
7/5			2	5:55AM	95	0.15	0.30	0.20	0.18	67	48				"				Harvesting of crops by combine harvestor.
										September 1939									Soil dry and hard.
9/1			2	11:15AM	15	0.02	0.08	0.08	0.04	64	54				"				Sept. 10, 1939
9/12			2	No record		0.03	No record			61	41				"				Tillage operations begun.
9/12			2	10:05AM	100	0.03	0.12	0.08	0.04	61	41				"				Soil dry to moist.
9/13			2	No record		0.01				54	47				"				G.S. 2, winter wheat stubble.
9/14			2	1:57 AM	127	0.09	0.08	0.08	0.08	62	46				"				Rough plow and very trashy.
										October 1939									G.S. 6, poa stubble rough plowed.
																			G.S. 8, practically all plowed. Rough and trashy.
10/1-2			2	6:30PM	480	0.12	0.04	0.04	0.02	62	38				"				Soil moist.
10/2			2	9 AM	120	0.05	0.04	0.04	0.02	44	42				"				
10/4			2	3:30PM	540	0.43	0.27	0.20	0.18	59	37				"				
10/24			2	7:45AM	15	0.03	0.12	0.12	0.06	43	36				"				
10/26			2	10 AM	255	0.32	0.36	0.18	0.14	37	30				"				
10/28			2	7:30AM	15	0.01	0.04	0.04	0.02	59	36				"				
										November 1939									
11/3			2	7:20AM	15	0.01	0.04	0.04	0.02	46	39				"				Soil moist.
11/6			2	6:55PM	200	0.10	0.12	0.08	0.08	56	34				"				
11/7			2	12:30AM	180	0.17	0.12	0.08	0.08	58	42				"				
11/8			2	No record		0.01	No record			48	43				"				
11/11			2	12:25AM	65	0.02	0.02	0.02	0.02	57	34				"				
11/30			2	3:55AM	20	0.04	0.08	0.08	0.08	61	35				"				
										December 1939									
12/1-2			2	11:07PM	133	0.07	0.18	0.08	0.08	49	30				"				
12/7			2	10:30PM	36	0.05	0.12	0.08	0.06	52	37				"				
12/8			2	6:20AM	385	0.14	0.08	0.08	0.08	49	42				"				
			2	2:15PM	135	0.10	0.08	0.08	0.08	49	42				"				
			2	8:30PM	75	0.04	0.04	0.04	0.04	49	39				"				
12/9			2	1:20AM	385	0.12	0.18	0.08	0.08						"				

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

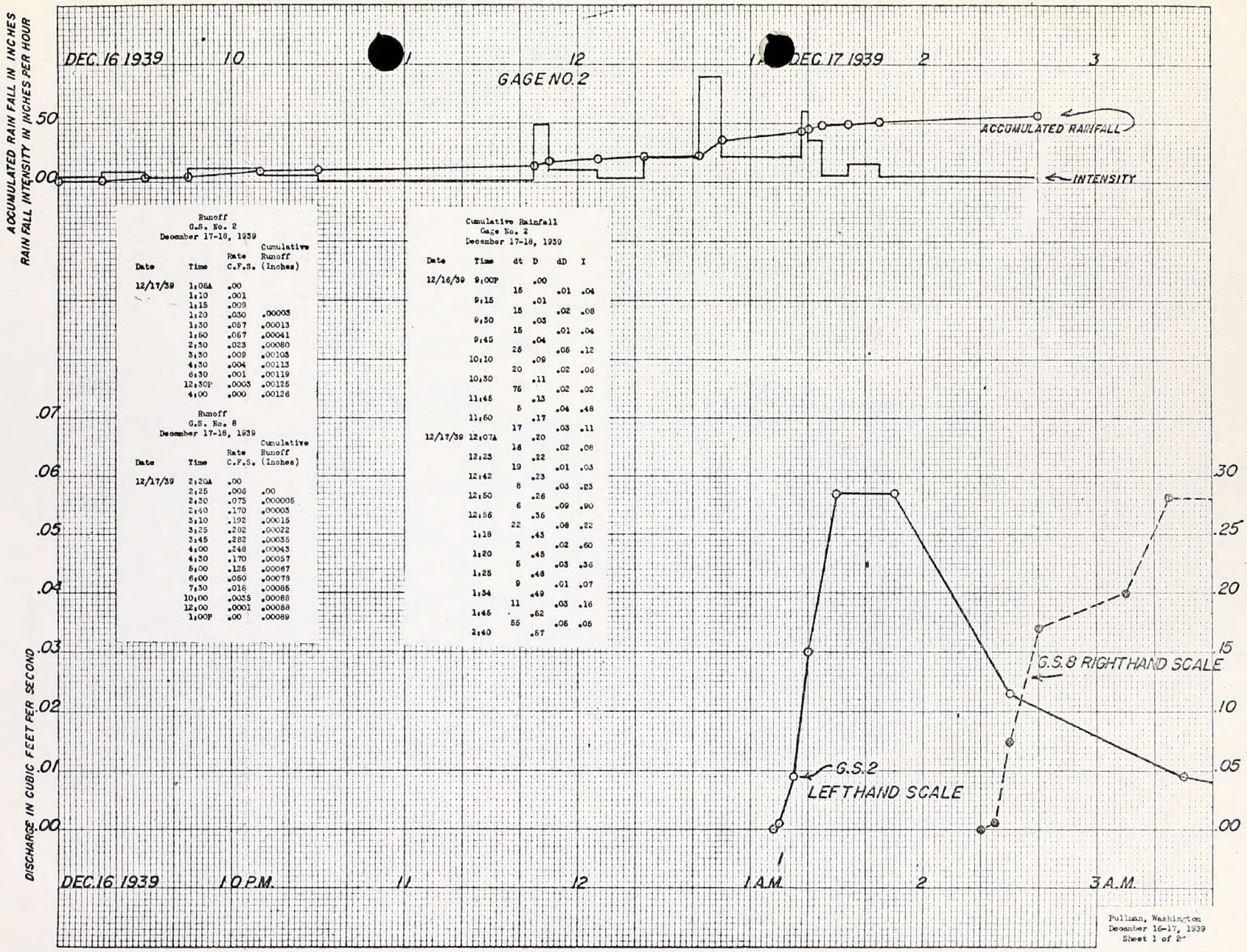
Project: Pullman, Washington

Month: December, 1939

Sheet 5 of 5 sheets

Date	Watershed		Rainfall							Temperature (degrees F.)		Run-off					Rainfall Minus Run-off (inches)	Silt Loss (tons per acre)	Condition of Watershed
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	Maximum Intensity: 5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)	Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	Maximum Rate: Cu. ft. sec.	Maximum Rate: Time			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
										December 1939 (Continued)									
12/9-10			2	2:45PM	825	0.38	0.12	0.08	0.06	54	39				No runoff.				Soil very wet.
12/10			2	5:45PM	210	0.21	0.12	0.12	0.10	54	40				ditto				
12/13			2	4:05PM	210	0.05	0.02	0.02	0.02	39	31				"				
12/14			2	12:45PM	345	0.35	0.16	0.16	0.14	49	34				"				
12/15			2	3:45AM	405	0.35	0.18	0.15	0.12	52	38				"				
			2	3:30PM	285	0.22	0.12	0.12	0.08	52	38				"				
12/16			2	12:30AM	225	0.37	0.20	0.20	0.20	52	38				"				
			2	9 AM	120	0.04	0.02	0.02	0.02	52	38				"				
*12/16-17			2	9 PM	340	0.67	0.00	0.50	0.38	52	37				"				
12/17	G.S.2	68.2								52	37	1:08AM	4 PM	.001	.057	1:50PM			Runoff caused by rains.
12/17-18	G.S.8	762								52	30	2:20AM	1 AM	.001	.282	3:25PM			
										No runoff on G.S. 5 and 6.									
12/20	G.S.2		2	12:01AM	50	0.06	0.04	0.04	0.04	51	33	1:20AM	3:20PM	.000	.001	11:20AM			
12/20			2	9:45AM	75	0.03	0.04	0.04	0.02	51	33								
12/24			2	Snow		0.01	Snow			29	24								
12/28			2	7:20AM	120	0.03	0.02	0.02	0.02	35	20								
			2	12:20PM	310	0.09	0.02	0.02	0.02	35	20								
			2	8:30PM	150	0.05	0.02	0.02	0.02	35	20								
12/29	G.S.2		2	6:25PM	230	0.12	0.08	0.08	0.06	37	25	1:55PM	12 PM	.000	.013	9 PM			Runoff caused by rains.
12/30	G.S.2		2	1:30AM	440	0.10	0.06	0.06	0.04	37	30	24 hours		.000	.002	3 PM			
12/31	G.S.2			2:55AM	945	0.50	0.12	0.12	0.08	40	30	24 hours		.000	.023	5:45PM			
	G.S.8									40	30	3:15PM	12 PM	.000	.025	7 PM			
										No runoff on G.S. 5 and 6.									

* Storm for which graph was prepared.



Runoff
G.S. No. 2
December 17-18, 1939

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/17/39	1:06A	.00	
	1:10	.001	
	1:15	.009	
	1:20	.030	.00003
	1:30	.057	.00013
	1:50	.067	.00041
	2:30	.023	.00080
	3:30	.009	.00103
	4:30	.004	.00113
	6:30	.001	.00119
	12:30P	.0003	.00125
	4:00	.000	.00126

Runoff
G.S. No. 8
December 17-18, 1939

Date	Time	Rate C.F.S.	Cumulative Runoff (Inches)
12/17/39	2:20A	.00	
	2:25	.006	.00
	2:30	.075	.000005
	2:40	.170	.00003
	3:10	.192	.00015
	3:25	.282	.00022
	3:45	.282	.00035
	4:00	.246	.00043
	4:30	.170	.00057
	5:00	.126	.00067
	6:00	.050	.00078
	7:30	.016	.00085
	10:00	.0035	.00088
	12:00	.0001	.00088
	1:00P	.00	.00089

Cumulative Rainfall
Gage No. 2
December 17-18, 1939

Date	Time	dt	D	dD	I
12/16/39	9:00P		.00		
	9:15	15	.01	.01	.04
	9:30	15	.03	.02	.08
	9:45	15	.04	.01	.04
	10:10	25	.09	.05	.12
	10:30	20	.11	.02	.06
	11:45	75	.13	.02	.02
	11:50	5	.17	.04	.48
12/17/39	12:07A	17	.20	.03	.11
	12:23	16	.22	.02	.08
	12:42	19	.23	.01	.03
	12:50	8	.26	.03	.23
	12:56	6	.36	.09	.90
	1:18	22	.43	.08	.22
	1:20	2	.45	.02	.60
	1:25	5	.48	.03	.36
	1:34	9	.49	.01	.07
	1:45	11	.52	.03	.16
	2:40	55	.57	.05	.05

Pullman, Washington
December 16-17, 1939
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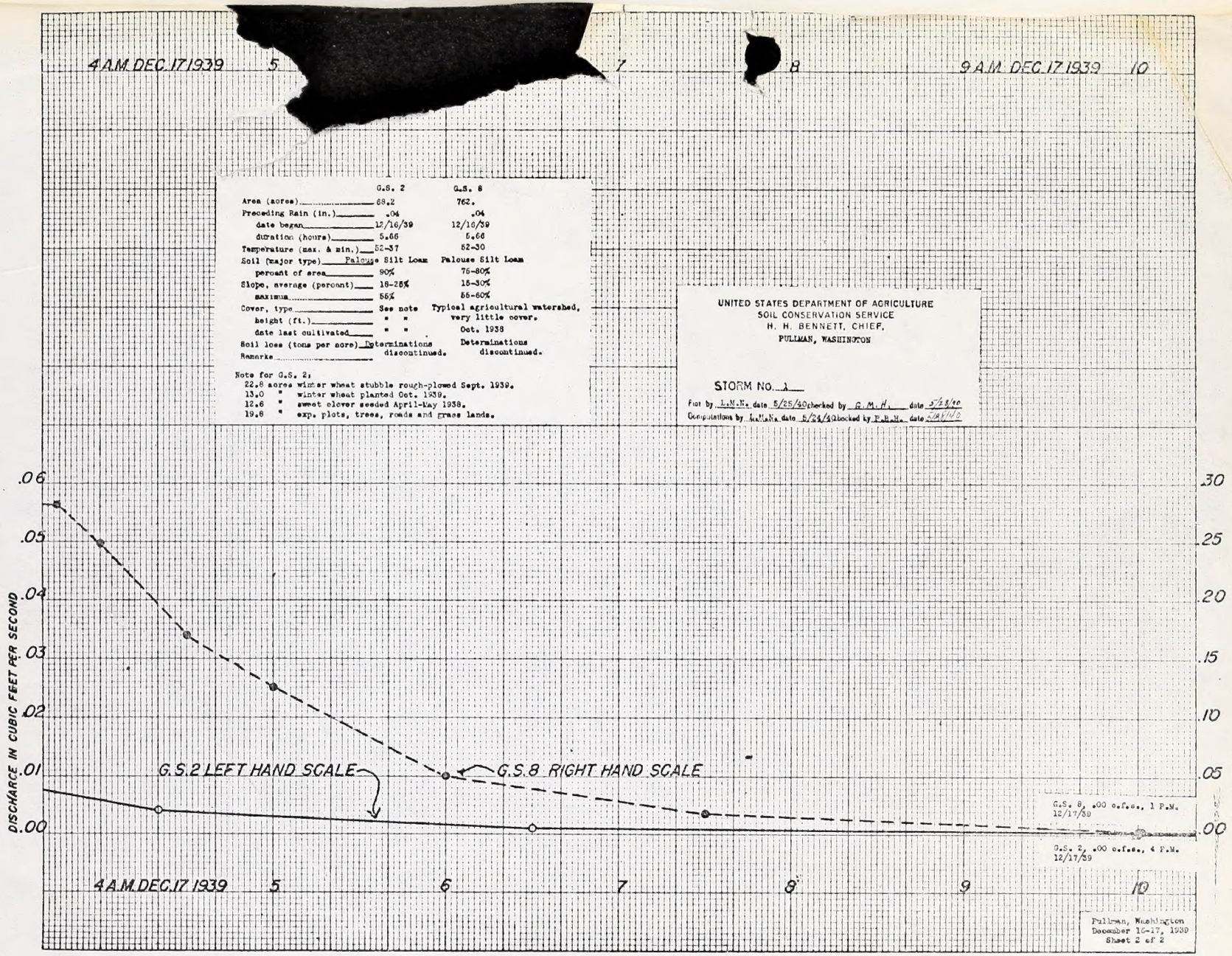
164859



	G.S. 2	G.S. 8
Area (acres)	68.2	762.
Preceding Rain (in.)	.04	.04
date began	12/16/39	12/16/39
duration (hours)	5.66	5.66
Temperature (max. & min.)	52-37	52-30
Soil (major type)	Palouse Silt Loam	Palouse Silt Loam
percent of area	90%	75-80%
Slope, average (percent)	18-25%	15-30%
maximum	55%	55-60%
Cover, type	See note	Typical agricultural watershed, very little cover.
height (ft.)	" "	
date last cultivated	" "	Oct. 1938
Soil loss (tons per acre)	Determinations discontinued.	Determinations discontinued.
Remarks		

Note for G.S. 2:
22.8 acres winter wheat stubble rough-plowed Sept. 1939.
13.0 " winter wheat planted Oct. 1939.
12.6 " sweet clover seeded April-May 1938.
19.8 " exp. plots, trees, roads and grass lands.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
PULLMAN, WASHINGTON

STORM NO. 1

Plot by L.M.N. date 5/25/40 checked by G.M.H. date 5/28/40
Computations by L.M.N. date 5/24/40 checked by P.H.M. date 5/28/40

Pullman, Washington
December 16-17, 1939
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